FROM

THE MEMBERS OF THE
AD HOC COMMITTEE ON MATERNITY AND
CHILD WELFARE,

TO

THE CHAIRMAN,
CENTRAL ADVISORY BOARD OF HEALTH.

Dated Simla, the 10th October, 1938.

SIR,

We have the honour to forward herewith for presentation to the Central Advisory Board of Health our report on Maternity and Child Welfare work in India, which has been prepared in accordance with a decision made by the Board at its meeting in June, 1937.

In planning the report, the first step to be taken was the preparation of a questionnaire divided into sections which together covered the whole field of our enquiry. Copies of the questionnaire were circulated to all those whose experience was likely to be of value to us and the statistical section, which had been drawn up with particular care, was made the subject of special reference to all provincial medical and public health departments. It was hoped that the replies from official organisations would provide fairly accurate figures susceptible of analysis and capable of presentation in such comparative form as would permit reasonably sound inferences to be drawn. We regret that our hopes in this direction have been to a great extent frustrated.

It was indeed quickly brought home to us that in many cases little care had been taken in preparing the replies to the questionnaire and that the statistical material given under the different headings had been given little consideration before it was written up. The result was that the consolidated tables which were prepared from this material have been excluded from our report because they were found to be largely valueless for our purpose and we have been compelled to depend largely on material made

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Except where otherwise stated, the figures in this report refer to the year 1936.

REPORT

on

Maternity and Child Welfare Work in India.

CHAPTER I.

HISTORY OF THE MATERNITY AND CHILD WELFARE MOVEMENT.*

Development at the Centre.

1. The maternity and child welfare movement began in this country in the second half of last century, following closely on the establishment of women's hospitals by Missions and by the Dufferin Fund Medical work amongst women early led to realisation of the conditions attending childbirth in India. These pioneer medical women were only too frequently faced with tragedy arising from the fact that childbearing and labour were conducted in unsuitable surroundings and by unskilled attendants in the form of indigenous or hereditary *dais*. Because the *dai* seemed to be the easier problem, the earliest efforts to raise the standard of midwifery were directed towards improving her methods.

The first training classes for *dais* were held about the middle of last century. The earliest teachers were men whose " praiseworthy efforts to teach the *dais* their business was no doubt looked upon by the pupils as both shocking and presumptuous." These efforts were soon abandoned, because of failure to change the *dais'* dangerous practices. " In 1866 a Civil Surgeon, Dr Aitchinson, opened a class for *dais* at Amritsar which struggled on through many vicissitudes and changes of teacher and became in the eighties the well-known Amritsar *Dais* School of the Church of England Zenana Missionary Society under Miss Hewlett."

Miss Hewlett was not only able to command the respect of the *dais* and to win their confidence and friendship, but she had the foresight to realise that training must be followed by supervision. The success of the Amritsar scheme led to the formation of similar classes in other areas and, generally speaking, the attempt to train *dais* continued in desultory and sporadic fashion until the beginning of the present century when the establishment of the Victoria Memorial Scholarships Fund in 1903 gave impetus to the safer midwifery movement.

The Victoria Memorial Scholarships Fund was founded by Lady Curzon following her appeal for money to be devoted to the improvement of conditions of childbirth. The object of the Fund laid down at its inauguration was " to train midwives in the female wards of hospitals and female training schools in such a manner as will enable them to carry on

*See " Work of medical women in India " by Balfour and Young.

their hereditary calling in harmony with the religious feeling of the people and gradually to improve their traditional methods in the lights of modern sanitation and medical knowledge." In order to induce the midwives to take a course of training, it was proposed to give them scholarships for the period concerned. In addition, qualified female teachers who understood the vernacular were to be sent to outlying districts and fees would be paid to midwives who attended a course of elementary instruction

At this stage, the women's hospitals were the only institutions in a position to undertake the training of midwifery pupils and the administration of the Victoria Memorial Scholarships Fund was entrusted to the Dufferin Fund Committee which had been founded in 1885 with the object of providing female medical aid to the women of India. The establishment of the Victoria Memorial Scholarships Fund followed closely upon the passing of the first Midwives Act in England in 1902.

Efforts to promote the safety of motherhood preceded the adoption of measures to safeguard health during infancy and childhood, but in the early years of the present century the first welfare centres in India were *opened by enthusiastic voluntary workers, who had been in touch with* social movements in the west and were genuinely perturbed by the needless suffering and mortality amongst infants, young children and their mothers These centres were originally staffed by nurses or midwives, but it was soon realised that if the work was to be educational and preventive, a special class of worker, similar to the health visitor in England, would have to be trained Many applications for trained workers of this kind were received by the Dufferin Fund office, but the demand could not be met as no training schools were in existence. The Dufferin Fund office, encouraged by the Secretary of the Education Department, Government of India, formed an Association for the Provision of Health Visitors and Maternity Supervisors, and, assisted by a grant of Rs. 6,000 from the Government of India, this Association was enabled to open a health school in Delhi in 1918. It was a bold venture, because funds were limited and the future position was uncertain, but the plan was sound and the faith of the promoters has since been amply justified In the same year, Lady Chelmsford, on her arrival in India, immediately interested herself in the welfare of the women and children of the country Lady Chelmsford first sought the help of provincial Governments as she proposed to finance the work from governmental funds, but whilst the Governments were sympathetic, they did not see their way to promise financial aid. A public appeal was, therefore, launched in 1919 and the Lady Chelmsford All-India League for Maternity and Child Welfare was founded the following year. The original objects of the League were to give grants-in-aid to welfare centres, to produce propaganda material, to publish a quarterly journal, to appoint a travelling organiser, to stimulate interest in maternity and child welfare to give technical advice to the voluntary committees already at work t parts of the country.

-India Maternity and Child Welfare Exhibition held in Delhi a further important stimulus to the new movement The actually organised by the office of the Dufferin Fund, was first mooted by the Association of Medical Women were received from all parts of the country and the n was never in doubt, whilst the resulting dis-

semination of information in respect of the possibilities of maternity and child welfare work led to marked improvement in the organisation and working of the existing welfare centres.

The maintenance of the necessary central office and staff made a heavy inroad on the relatively small income of the Lady Chelmsford League Fund and, in order to liberate additional funds for field work, the offices of the Lady Chelmsford League and the Dufferin Fund were combined and the Secretary of the Dufferin Fund took over the duties of Honorary Secretary of the Lady Chelmsford League Fund. The Victoria Memorial Scholarships Fund, as well as the Association for the Provision of Health Visitors and Maternity Supervisors, was also administered from the Dufferin office and a special officer was appointed to assist the Chief Medical Officer, Women Medical Service, in their administration and in the organisation of their services.

During 1914-1918, the Indian Red Cross Society had added considerably to its funds and, after peace was established, the Society began to look round for objects to which its increased income might legitimately be devoted. Maternity and child welfare seemed to be a suitable field for this purpose, but in order to avoid over-lapping, the Maternity and Child Welfare Bureau, Indian Red Cross Society, was established in 1930 *and took over the management of all activities concerned with* maternity and child welfare. The administration of the Victoria Memorial Scholarships Fund and the Lady Chelmsford League Fund (incorporating the Association for the Provision of Health Visitors and Maternity Supervisors) was entrusted to the Bureau, Dr. Ruth Young being appointed the first Director. This amalgamation was of undoubted advantage to the movement in India; the Indian Red Cross Society had both funds and local machinery in its provincial and district branches, whilst the Dufferin Fund provided additional money and the services of an expert technical adviser.

Army child welfare work had by this time also come into being, the limited income available, which was mainly derived from the Commander-in-Chief's fund for unforeseen expenditure, being administered by a voluntary committee. Limited funds and the lack of technical guidance handicapped progress and in 1931 the Army Child Welfare Committee and the Maternity and Child Welfare Bureau agreed to amalgamate. The Maternity and Child Welfare Bureau took over the technical supervision of the work, along with the income, from the Lady Birdwood Fund for Army Child Welfare and assumed a certain degree of responsibility for army *child welfare. Civil* and army *child* welfare were thus brought under the control of a single central office.

The opening of the All-India Institute of Hygiene and Public Health in Calcutta provided the opportunity for which those most intimately concerned with maternity and child welfare had long been looking. The Chief Medical Officer of the Women's Medical Service drew up and submitted to Government a scheme for a diploma in maternity and child welfare. It was agreed that one of the six sections at the Institute should be devoted to maternal-child health and the first diploma course was held in 1933-34. From 1933 until 1937, the Dufferin Fund gave the free services of a member of the Women's Medical Service as Professor of Maternity and Child Welfare in the Institute, since when the Central Government have resumed responsibility for filling that post.

Two recent events bear testimony to the widespread concern felt in respect of the continuing high maternal and infantile mortality rates in this country.

At the annual conference of Medical Research Workers held in Calcutta in December, 1935, a resolution was adopted which recommended the establishment of an *ad hoc* committee to advise on research into the problems connected with maternal mortality and morbidity. This committee met for the first time early in 1936 and, during the same year, under the auspices of the Indian Research Fund Association, the first of a series of investigations into the incidence and causes of maternal deaths was started in Calcutta. A second investigation was later begun in Bombay. The information yielded by these surveys may be expected to provide data on which the planning of sound and effective preventive schemes can be based with some confidence.

The second event was the decision made by the Central Advisory Board of Health at its inaugural meeting to appoint an *ad hoc* committee which should review the whole maternity and child walfare position in India and report to the Board. The present report has been prepared in accordance with that decision.

Development in the Provinces.

2. The history of the maternity and child welfare movement in the provinces is more or less similar to that at headquarters. Isolated welfare centres and *dais'* training classes were in the first instance started by voluntary workers. In some provinces, branches of the Victoria Memorial Scholarships Fund and the Lady Chelmsford League Fund were later established under provincial committees and these have mostly followed the example of headquarters and have joined forces with the provincial branches of the India [illegible] Society bringing unified control to bear on all voluntary effor[illegible] Bihar and Orissa, however, large and [illegible] their individual identity, whilst both [illegible] have remained outside the scope of the Victoria Memorial Scholarships Fund. The former has aimed consistently and with considerable success at abolition of the indigenous *dai*; in the latter, the Lady Wilson Village *Dai* Improvement Fund takes the place of the Victoria Memorial Scholarships Fund.

(*a*) *Bombay*—The maternity and child welfare movement in Bombay Presidency originated in Bombay city where the special problems created by the recruitment of labour for the cotton mills and the inadequacy of the housing of the workers led early to the establishment of maternity hospitals and homes. The first maternity home was opened in 1845 by the Government of Bombay in the compound of the J. J. Hospital and other hospitals and homes, built from funds contributed by philanthropic individuals, followed in rapid succession. Th[illegible] Hospital, built in 1886, was the first women's and [illegible] ho[illegible] staffed exclusively by medical women.

A large scale maternity scheme was [illegible] Willingdon in 1911-12, the development of [illegible] its main features. These homes [illegible] were [illegible] City Municipal Committee.

standing feature was the Hyderabad *Dais'* Improvement Scheme started by Miss Piggott in 1918. This was not only important as a great pioneer effort, but it has influenced the development of maternity and child welfare in Sind down to the present day. At various times, too, a number of small maternity homes were opened, but, as the driving force in many instances came from a single individual, most of these had only a brief existence

The Sind Provincial Branch of the Indian Red Cross Society was established in 1921 and its first maternity and child welfare activity was the opening, in 1924, of centres staffed by voluntary workers for the families of Indian troops in Karachi The first civil child welfare centre, with a nurse in charge, was opened in 1925 in Kiamari, an industrial village four miles from Karachi In 1926, Nawabshah district was provided with a touring nurse, whose duties were to educate the mothers in regard to safe midwifery, to give lectures to *dais* and to attend midwifery cases This scheme achieved a certain degree of success and, later on, three additional touring nurses were appointed

A Provincial Organiser was appointed by the Sind Branch of the Indian Red Cross Society in 1930 to supervise and develop work throughout the province By this time, one welfare centre, two maternity homes and four touring nurses, who conducted an average of 10 cases each per annum, were being maintained. The Society, guided by the success of Miss Piggott's Scheme, decided to concentrate on the training of indigenous *dais* Classes for these women were started at Nawabshah in connection with the maternity home and at Mirpur Khas under a health visitor. The most successful scheme was that at Sukkur which, by 1937, had developed into a residential institution known as the Lady Graham Red Cross *Dais* Training School

(c) *Madras*—The history of the movement in Madras Presidency differs from that in other provinces in that the stimulus has frequently come from official sources As early as 1875, Government orders were issued requiring every local fund board in the Presidency to employ a midwife, trained under rules laid down by Government, to teach native women (indigenous *dais*). Later orders (1879-95) provided that a midwife should be employed in all local fund dispensaries and hospitals having women's wards and that detached but pavilions should be established for lying-in cases The response of the *dais* to this provision for their training was meagre and the profession has consequently passed largely into the hands of a non-indigenous class of women These and subsequent Government orders kept local bodies alive to their responsibilities and paved the way for later developments

The Madras Corporation made efforts to introduce a system of home visiting in the city in 1901 whereby advice on health matters would be available to the mother in her home, but the scheme proved of little value. A more comprehensive maternity and child welfare service was inaugurated in 1917 with a medical woman in charge and four midwives to assist with confinements The first centre was opened in 1918. The success of the scheme led to rapid expansion and in 1938 there were twelve centres each in charge of a medical woman and staffed by health visitors and midwives Prenatal care has made such progress that it

is now possible for the staff to restrict attendance at labour mainly to 'booked' cases. The Corporation spends Rs. 1,82,510 annually on its maternity and child welfare services

Voluntary work in the maternity and child welfare field started in 1918 when the Madras Presidency Health Association was formed. Shortly afterwards, the Association was dissolved, its activities being taken over by the Madras Health Propaganda Board and the Madras Presidency Maternity and Child Welfare Association. The latter Association under the leadership of Lady Willingdon encouraged *mofussil* committees to open centres in charge of midwives and nurses. Financial assistance was given by the Association, but the mainstay was the local voluntary worker.

In 1922, the Secretary to the Government of Madras convened a conference which was attended by the Director of Public Health, the Health Officer and the Superintendent of the maternity and child welfare scheme of Madras city and representatives of various institutions and societies concerned with work amongst women and children. The conference recommended the training of health visitors at the Corporation welfare centres, this to be in charge of the medical superintendent of the Corporation centres The first course was organised by the Maternity and Child Welfare Association in 1922 and classes were continued on similar lines until 1929. As the students completed their training they were absorbed into the municipal scheme ; at that time, there was no demand from the *mofussil* for health visitors

From 1929-30, a health school was run by the Maternity and Child Welfare Association, but in 1930-31 it was closed for lack of a competent staff. A special division of the Provincial Branch of the Indian Red Cross Society, into which the Maternity and Child Welfare Association had been incorporated, took over the School in 1931 and continued to maintain it until March, 1938, when it was felt that the time had come for Government to assume responsibility for the training of health visitors. A training class under Government auspices was actually formed during the same year. With the closing of the Red Cross Health School and the handing over to the Corporation of the model centre, the Society severed its connection with maternity and child welfare in the city. The voluntary funds thus liberated are being used to promote the training of Nursery School teachers.

The Health Propaganda Board has done invaluable work by promoting conferences on maternity and child welfare and the school medical services, thus broadcasting information and broadening the outlook of all concerned with the health of the mother and her children The Board receives a Government grant-in-aid.

In 1923, the Director of Public Health drew up a memorandum on maternity and child welfare which Government circulated to all local bodies urging them to make more use of their powers to provide for the health of mothers and children. The last paragraph of the Government order reads :

> "The Government trust that local bodies as the responsible custodians of the public health of the areas within their respective jurisdictions, will lose no time in formulating and carrying into effect practical measures on the lines set forth in the memo-

randum appended to this order All local bodies are requested to report through the Director of Public Health not later than the 31st December, 1923, the action taken by them on this order. The Director of Public Health is requested to bring to the special notice of the Government any instances in which he considers that the action taken by a local body is not adequate."

The local authorities took little or no action to implement the recommendations made in the memorandum until more direct and more continuous pressure was brought to bear on them by the creation of a maternity and child welfare department in the office of the Director of Public Health and the appointment of a woman Assistant to the Director of Public Health for maternity and child welfare in 1931.

(*d*) *Punjab*.—Dr Agnes Scott was the first to hold the appointment of woman assistant to the Inspector General of Civil Hospitals, a post created by the Punjab Government in 1917. The first result of this appointment was the organisation of a Central Midwives Board, the development of maternity and child welfare work was then taken up As it was felt that the needs of the province would best be secured by the establishment of a school for the training of health visitors, in 1920 the services of two English health visitors were obtained for work in Lahore. In the same year, a centre was opened in Simla and placed in charge of a Delhi-trained health visitor A provincial branch of the Lady Chelmsford League for Maternity and Child Welfare was constituted in 1922 and during the same year, aided by a grant from Government, the Punjab Health School was opened in Lahore. In 1923, the provincial branch undertook an active propaganda campaign in order to extend its work and decided not only that all centres must be inspected but that none should be eligible for financial assistance unless the Committee were satisfied with its work and with the accommodation provided for the woman in charge. The work of organisation and supervision was entrusted to the Principal of the Health School and, by 1924, five welfare centres had been opened

The first two courses of training for health visitors were held in English, but as the applications for admission were few in number, the Committee decided to accept vernacular students for the third course held in 1924-25 The response being no better, this experiment was not repeated.

In 1925, the Director of Public Health drew the attention of the Lady Chelmsford League Committee to the fact that the League's funds were almost entirely spent on the Health School and asked that consideration might be given to the proposal that the School be taken over by Government, so that the activities of the League might be concentrated on the promotion of infant welfare centres in the districts As a result, the Health School became a Government institution in 1927, being placed under the control of the Director of Public Health The Government thus became committed to the encouragement of child welfare work and the next step was to give grants in aid to local schemes This was done in 1928 when a sum of Rs 22,650 was sanctioned.

The liabilities of the provincial branch of the Lady Chelmsford League having been taken over by Government, the League was dissolved in 1929.

The district branches of the League were, however, amalgamated in 1931 with the branches of the Indian Red Cross Society and control of the centres was transferred to the latter organisation.

The economic depression of 1930 nearly resulted in the closure of the Health School, but this decision was rescinded in response to a striking demand from the Legislative Council and the general public. Although expenditure was drastically cut and grants-in-aid were reduced, the number of centres has nevertheless continued to increase slowly but steadily.

Dais' training classes, aided by grants from the Victoria Memorial Scholarships Fund, were held at all centres and, by 1930, the numbers prepared for the Indigenous Dais' Certificate of the Punjab Central Midwives Board had become so large that the Government ordered the examinations to be conducted by the Public Health Department. Dais' Examination Boards were established in each district, examinations being conducted by the Principal of the Health School during her inspection tours. An Assistant Inspectress of Welfare Centres, under the control of the Director of Public Health, was appointed in 1936.

By 1937, 89 welfare centres and a large number of subsidiary centres were at work

(*e*) *N.-W. F. Province.*—Maternity and child welfare work began in the N.-W. F. Province in 1923 as a result of propaganda initiated by the Lady Chelmsford League. In that year a woman sub-assistant surgeon was appointed for domiciliary midwifery by the Peshawar municipal committee and a welfare centre in charge of a health visitor was opened under voluntary auspices in Dera Ismail Khan.

A *dais'* training class was started in the Dera Ismail Khan centre and 30 women eventually passed the Punjab Central Midwives Board examination From this class developed the Lady Bolton Dais' Training School which was opened in 1926. The *dais* live in the School for nine months and receive training in indoor midwifery and pre-natal work at the municipal Zenana Hospital and in outdoor midwifery under the health visitor. By 1929, all the districts and many of the Agencies were co-operating in the "better midwifery" scheme by sending *dais* for training After the course, the *dais* return to their districts where they are attached to the small civil hospitals and dispensaries.

In 1936, the health centre and the *dais'* training school were taken over by Government and the period of training was extended to twelve months. In the same year, a second Government training centre was opened in Peshawar and placed in charge of an experienced midwife, whilst in Kohat, in 1937, a health visitor was appointed by a voluntary committee and a training class was started for local *dais*.

Impetus has been given to this scheme by payment of Government subsidies to trained *dais* working in rural areas The Superintendent of the School tours the province to select *dais* suitable for training and to supervise the work of the trained women. During more recent years many applications for admission to the training schools have been received from better educated women.

(*f*) *United Provinces.*—The maternity and child welfare movement began in 1923 under the auspices of the Lady Chelmsford League, the first centre being opened in Bareilly and the second in Allahabad, which became a training centre for midwives. By 1926, the number of centres in exist-

ence totalled 26. In 1928, the training centre was transferred to Lucknow, where a health school was opened for the training of health visitors. Because of lack of funds and the difficulty of finding employment for the health visitors, the health school was abolished in 1932.

Amalgamation of the Lady Chelmsford League with the Indian Red Cross Society took place in 1931. By 1935, there existed at least one centre at the headquarters of each of the 48 districts in the province and, in addition, 114 rural and 61 other urban centres had been opened, making a total of 223. At the present date, 293 maternity centres are at work, some of these being situated in remote hill tracts, where no skilled help other than that given by the assistant midwife is available In contradistinction, child welfare centres number only 18, the development of this work being hampered by the dearth of trained health visitors Considerable assistance has been given to the work throughout the province by local committees of women voluntary workers.

In the initial stages, funds were small, but in 1926, the Government gave a grant of Rs. 50,000 and for the last four years the annual Government grant has been Rs. 1,22,600 The total expenditure in 1937 amounted to Rs. 2,54,718, this including a grant from the Indian Red Cross Society, local contributions and fees

The training of indigenous *dais* has been carried out under the Victoria Memorial Scholarships Fund, the women being still paid two annas for each lecture they attend and four annas for every maternity case reported in time to permit of its supervision by the health visitor In some districts, grants from the Silver Jubilee Fund have been set aside for the training of these *dais* and in the near future it is hoped that the *dais* trained at welfare centres will be attached to Dufferin Hospitals for a few months.

The training of assistant midwives continues, about 25 women per annum being given instruction with fairly successful results.

In 1935, a grant of one lakh was received from the Silver Jubilee Fund for the construction in Lucknow of a health school for the training of health visitors, midwives and *dais*. Various difficulties having been overcome, building operations are now in progress

(*g*) *Bihar and Orissa*.—As in other parts of India, maternity and child welfare work has been an important development of recent years, although, so far, most of the activities are still confined to district headquarters where the personal efforts of officials and their wives have provided the impetus.

It was only in 1923, ten years after the creation of the province, that the first move was made. In that year, on the advice of the Inspector General of Civil Hospitals, the Provincial Government started a maternity scheme in Patna, the staff consisting of a maternity supervisor and six midwives Each midwife was given a defined area in which to work and she attended all normal labour cases.

This scheme, however, had little to do with the care and protection of infants and, in 1925, Lady Wheeler initiated "The Bihar and Orissa Child Welfare Fund" which began work by maintaining two child welfare centres in Gulzarbagh and in Patna and by holding "baby weeks" in the more important towns Centres at Cuttack and Balasore were opened in the following year. These four centres functioned successfully, but, in order to promote the extension of welfare activities all over

the province, in 1928 the "Bihar and Orissa Maternity and Child Welfare Society" was established, the existing Fund being merged into the new Society. The income of the Society is derived from four Trust funds, from interest on investments and from annual Government grants and is spent in making grants-in-aid to welfare centres established throughout the province. By 1937, a total of eight centres were at work in Bihar and two others in Orissa and it is hoped shortly to have at least one centre in each district headquarters and in the more important towns. Each centre is controlled by a local committee working under the guidance and supervision of the Provincial Society and is maintained partly by the Society's funds and partly by local subscriptions and donations.

Every centre is staffed by a health visitor, assisted by a midwife, and is visited regularly by the local woman doctor. Pre-natal work is one of the most important parts of the work. Classes for *dais* are held in some of the centres.

On the separation of Orissa, the centres situated in that province were taken over by a new Society, which has since been formed.

(*h*) *Central Provinces.*—The beginnings of maternity and child welfare work in the Central Provinces and Berar was laid by Dr. Agnes Henderson of the Scottish Mission Society who was a pioneer in the cause of providing relief to Indian women in this province. More than 25 years ago, she realised the importance of training the indigenous *dai* and started a training class at her own expense. When the Victoria Memorial Dai Training Fund was established, this scheme received an annual grant from this Fund.

In 1920, Dr. MacNair, also of the Scottish Mission Society, with the help of the Deputy Commissioner of Nagpur formed a committee of some of the leading citizens of Nagpur and collected donations for maternity and child welfare work among the poorer classes in Nagpur city. No welfare centre was established, but a midwife was employed to do home visiting. The following year this committee obtained a grant from Government for the salary of a woman doctor for one year and a welfare centre was started. At the end of the year the committee felt that this work ought to be taken up by the municipality and this was later accomplished. The municipality placed the child welfare work under its health department, Government paying half the cost up to a maximum of Rs. 5,400 per annum. Two health visitors one from the Poona Seva Sadan and one from Delhi were employed to run the centres, but welfare work up to this time was confined to Nagpur city.

In 1926, the Indian Red Cross Society decided to organise maternity and child welfare work for the province and a special committee, designated the Provincial Welfare Committee, was placed in charge. Shortly afterwards a six months' course for training health visitors was drawn up and conducted under the aegis of the Red Cross Society. A hostel for the candidates, who received a stipend of Rs. 20 per mensem, and a health centre for training in practical work, were opened close to the Robertson Medical School, Nagpur. The lectures were delivered by the doctors from the Dufferin and the Mure Memorial Hospitals and by private medical practitioners.

A scheme to open welfare centres in every district of the province was formulated and propaganda done by enlisting the support of district officials and prominent non-officials who were interested in the work.

Centres were started by local committees who bore half the cost of equipment and maintenance from funds collected by them and from grants given by local authorities, the remaining half being borne by the provincial Welfare Committee

The funds of the provincial Welfare Committee comprised grants from the Red Cross Society and from Government The latter has fluctuated between Rs. 15,900 in 1928-30 and Rs 10,000 in 1931, the present Government grant being Rs. 32,500.

It was soon felt that the training for health visitors was not satisfactory. In 1928, the Red Cross training class was closed down and the Nagpur Health School for training health visitors was started by Government. A woman doctor with experience of maternity and child welfare work was appointed as Superintendent.

A Nursery School for toddlers designed to serve as a model for the province was opened in 1928 and most of the health centres were organised to do *dais'* training on a comprehensive scale and pre-natal work where it was possible to get the help of a lady doctor. After a promising beginning, progress was checked by the financial depression of 1931 as Government was compelled to reduce its grant By effecting economies in various directions and reducing the pay of the health visitors, welfare work in the province has not only been maintained but has been expanded The previous three grades of welfare centres were abolished and all put on the same level Since 1926, when the number of centres totalled 23, all of which were in urban areas, activities have been greatly expanded, so that by 1938 as many as 61 urban and 20 rural centres were in existence.

(*i*) *Assam.*—Red Cross work began in 1921, but welfare work under the Lady Chelmsford League was conducted separately until 1932. The funds of the League being small, such work as was done between these dates was financed by the Red Cross.

A welfare centre was opened in 1927 in Shillong ; later on, centres were instituted in Jorhat, Nowgong and Sylhet

The training of *dais* has been spasmodically carried on at the Berry White Hospital at Dibrugarh, but more serious efforts were made in Silchar and Sylhet.

As regards midwives and nurses, a number of candidates holding scholarships have been given training at Delhi and Calcutta. In respect of the training of health visitors, a few have been trained at Delhi and Calcutta, but since 1937 two health visitors are being trained annually in the Bengal Health School.

(*j*) *Bengal.*—Although the Calcutta Corporation started maternity and child welfare work in 1909, this was of a rudimentary type and it was not until 1916 that the real foundation of maternity and child welfare services was truly laid. During this year the Calcutta Corporation opened two maternity units, each in charge of a woman sub-assistant surgeon designated as a health visitor. These centres were, however, intended for domiciliary midwifery. Additional maternity units were opened by the Corporation and by 1930 there were seven such units in existence.

With the formation of the Red Cross Society in 1921 a child welfare committee was formed and the Society gave financial assistance to two clinics, *viz.*, the St John Ambulance Baby Clinic and the National Indian Association (Ladies Branch). In the same year a Maternity and Child

Welfare Trust was established at Dacca and a maternity centre at Asansol, whilst the Provincial Branch of the Indian Red Cross Society also helped the Barisal district society in the supply of dry milk and, during the following year, opened a child welfare centre in north Calcutta with the help of a grant from the Corporation, which was secured by the representative of the Indian Red Cross Society on the Municipal Committee. In 1923, the Calcutta Corporation established the first of its four municipal maternity homes. The Calcutta Baby Week Association, which was founded in 1924, also made a small grant for district maternity work.

Whilst the Provincial Branch of the Indian Red Cross Society had depended mainly on voluntary workers for its welfare schemes, the need for better trained staff had constantly been realised and in 1925 a Health School for the training of health visitors was established in Calcutta by the Society. The nurses working in the existing clinics attended the School, but at the same time continued to perform their usual duties, so that the first trained health visitors were not available until 1926. The Health School was closed down in 1934 for various reasons.

Previous to 1930, the Asansol Mines Board of Health had maintained three midwives whose main duty was to train and supervise the work of *dais*. In that year, an extensive scheme was prepared and in 1936 the Mines Board sanctioned maternity centres for their two principal areas, *viz.*, Asansol and Raniganj, and now employ a male medical officer and several health visitors.

In 1933, a model child welfare centre was organised by the Professor of Maternity and Child Welfare at the All-India Institute of Hygiene and Public Health. This clinic serves as a training centre for medical women attending the course for the Diploma in Maternity and Child Welfare and, later, refresher courses for health visitors have been arranged. Some of these health visitors were employed by the Provincial Branch of the Indian Red Cross Society and placed in charge of centres with a defined area having a radius of about two miles. This centre which had previously been financed from voluntary funds was taken over by the Central Government in 1937. The clinic at Darjeeling opened in 1924 was reorganised ; a health visiting section was added and a woman health visitor and two qualified midwives were appointed.

The Bengal Health School, which had been closed in 1934, was remodelled and opened in 1937 as the Sir John Anderson Health School. The course for the training of health visitors has now been extended from one year to 18 months and the rules for its control are under the consideration of Government in order that recognition should be given to it by the Bengal Nursing Council. The clinic at Kaurapukur was established during 1938 for the purpose of giving practical training to candidates from the School in rural work.

During the last few years a considerable number of welfare clinics have been opened by different societies and bodies, including the Indian Red Cross Society. During the present year a Nursery School was instituted by the Servants of Humanity Society.

From this descripti[illegible]

[illegible] ild welfare
[illegible] voluntary
[illegible] Branch of
[illegible] Red Cross Society.

CHAPTER II.

ADMINISTRATION, ORGANISATION AND SUPERVISION—OFFICIAL AND NON-OFFICIAL.

Organization at the Centre

1 The present position is that maternity and child welfare work in India is still largely in the hands of voluntary organisations The only central body working on an all India basis is the Maternity and Child Welfare Bureau of the Indian Red Cross Society The policy of the Bureau is determined by a committee representative of the medical and public health departments of the Government of India, army medical and administrative departments, voluntary organisations engaged in social work, the nursing profession and private individuals interested and experienced in social welfare The Director of the Bureau is a medical woman with technical knowledge of both the clinical and administrative aspects of welfare work

The annual income of the Bureau amounts approximately to Rs. 1,30,000 and is mainly derived from the invested capital of the Victoria Memorial Scholarships Fund, the Lady Chelmsford League, grants from the Indian Red Cross Society and from Army Headquarters and an annual Government grant of Rs. 6,000 for the Lady Reading Health School The income from the Victoria Memorial Scholarships Fund which amounts to approximately Rs 40,000 is almost wholly distributed in the form of grants-in-aid to training schemes for indigenous *dais* and other women who will subsequently take up midwifery practice in the smaller towns and villages. Approximately Rs 26 000 per annum is spent on the promotion of schemes for the welfare of the families of troops A considerable proportion of the remaining balance is expended on grants to schools for the training of health visitors, nursery school teachers and nursery nurses Two scholarships are also provided, tenable at the All-India Institute of Hygiene and Public Health by medical women graduates taking the course for the diploma in Maternity and Child Welfare Apart from expenditure on the training of public health workers, certain grants-in-aid of maternity and child welfare schemes and the production of a variety of propaganda material, the main function of the Bureau is to act as a central office in respect of all matters connected with the well-being of the mother and her children. It endeavours to collect and record information about the work throughout India, to keep in touch with what is taking place in other countries and to co-ordinate and standardise the maternity and child welfare activities of provincial branches of the Indian Red Cross Society. This is done by means of personal visits made by the Director, by correspondence and by promoting conferences and health weeks In short, the Bureau attempts to carry out in the voluntary field the work which is performed in England by the Maternity and Child Welfare Department of the Ministry of Health. The extent to which the Bureau can influence the trend of maternity and child welfare is of course limited by the voluntary nature of the organisation. Advice is willingly given when asked for by public health departments or by voluntary organisations and workers, but advice cannot be offered nor can circulars drawing attention to re-

cent advances be sent out unless invitations to do so are received. The existing relationship between the Bureau and the bodies undertaking maternity and child welfare in the provinces is indicated in the following paragraphs which also give descriptions of the different provincial organisations.

Organisation in the Provinces.

2. *Madras.—(a) Government.*—Madras Presidency enjoys the distinction of being the only Province where a medical woman holds an official appointment as Assistant Director of Maternity and Child Welfare in the office of the Director of Public Health. Except for this officer's salary, no other part of the provincial public health budget is earmarked for maternity and child welfare work. Under an order of the Madras Government, all local authorities proposing to allot funds for maternity and child welfare are required to consult the public health department in regard to their schemes. Government orders regulating the conditions of service and the qualifications of the staff appointed to those maternity and child welfare schemes which receive official grants have been issued. Standard record forms have also been introduced and standard plans are available, these having been prepared by the Architect and Sanitary Engineer to Government in consultation with the Director of Public Health

The Director of Public Health, Madras, has remarked that "with regard to work under Government and local bodies, it has been found by experience that dual control, which resulted when executive powers were jointly entrusted to both local bodies and voluntary associations, created many administrative difficulties, caused frequently dislocation of work and serious indiscipline in the ranks and resentment on the part of local bodies At a conference held in 1934 between the Surgeon General and the Director of Public Health and the authorities of the Indian Red Cross Society, it was agreed that the organisation, direction and supervision of work under the local bodies should be left to the Director of Public Health In G O. No. 2514-P.H, dated 29th October 1934, the Government have accordingly directed that the inspection and control of work under local bodies should be left to the Director of Public Health The Director of Public Health has, however, stipulated that whilst he would be glad to receive the suggestions of voluntary workers, as regards work carried out by local bodies, the representatives of voluntary associations should not make recommendations and suggestions directly either to local bodies or to their officers in the field but only to him (Director of Public Health). This safeguard is necessary in order to prevent clashing and overlapping. This policy has been accepted by local bodies whose allotments for maternity and child welfare work have increased from Rs. 1,25,781 in 1931 to Rs. 2,40,961 in 1937. As stated above, the work under them has also proceeded on more satisfactory lines."

(*b*) *Voluntary.*—The Madras Provincial Branch of the Indian Red Cross Society includes maternity and child welfare work in its programme. The composition of the maternity and child welfare sub-committee of the Provincial Branch corresponds closely to that of the Maternity and Child Welfare Bureau, Indian Red Cross Society, and the advice of the Director of Public Health and his woman Assistant Director are thus secured. The

ment of Inspectress of health centres and Principal of the health school since 1927; a second Assistant Inspectress was appointed in 1936. The former acts virtually as an assistant for maternity and child welfare to the Director of Public Health

The two women who have held the post of organiser of maternity and child welfare work since its establishment in 1927 have done admirable work, both by arousing interest in the opening of welfare centres, and later, by securing the employment of trained health visitors and midwives.

The Punjab provides an annual grant of Rs. 53,800 for maternity and child welfare in its public health budget. Out of this sum, Rs. 25,000 is distributed in the form of grants-in-aid to centres, whether managed by voluntary or official bodies, provided the public health department is satisfied with the standards of work and the qualifications of the staff. The balance of Rs 28,800 is expended by the public health department in the maintenance of the training school for health visitors and on the salaries and allowances of the staff attached to headquarters.

(*b*) *Voluntary.*—The Provincial Branch of the Indian Red Cross Society spends approximately Rs 10,000 each year on maternity and child welfare The Organising Secretary of the Branch is a layman but technical advice is obtained from the Inspectress of health centres who also inspects the Red Cross child welfare centres

(*c*) *Local Organisations—Local Bodies and Voluntary*—Municipal and district boards in the Punjab spend Rs 72,972 and Rs. 33,008 respectively per annum on welfare centres, whilst district branches of the Indian Red Cross Society spend Rs 25 000 to Rs 30,000 per annum on maternity and child welfare work Welfare centres now total 88 Thirty-six of these are run by municipal boards and local bodies, 13 by voluntary associations, 34 by the combined efforts of local bodies and voluntary organisations and one in association with the Government health school. In addition, the N.-W Railway has four centres of its own Officials are ordinarily represented on local committees, the Deputy Commissioner, in many cases, being president and the district medical officer of health being the secretary The Director of Public Health is not only regularly asked for advice regarding the work, but he is required to approve of a health visitor's qualifications before she can be appointed to a centre. Moreover, Government will not give a grant, until the work of the centre has been approved by the Director of Public Health

4. *The United Provinces.*—(*a*) *Government and Voluntary*—The United Provinces Government provides Rs. 1,22,600 in its public health budget for maternity and child welfare, but the whole of this grant is handed over to the United Provinces Branch of the Indian Red Cross Society In addition, the Provincial Branch of the Red Cross Society expends Rs 24,656 annually on welfare work A medical woman acts as Director of the Maternity and Child Welfare Section of the Red Cross Society and works under the direct control of the Director of Public Health, who is Vice-Chairman of that Society.

However expedient this method may have been in the past, when public health departments were neither sufficiently developed nor suitably staffed, it would seem to be open to argument whether the policy of

delegating, to a voluntary society, the provincial organisation of maternity and child welfare and the administration of Government grants-in-aid should be continued

(b) *Local Bodies and Voluntary*—In the districts, welfare work is conducted by the district branches of the Indian Red Cross Society, their total expenditure amounting to Rs 1,15,097 per annum. Grants are also given by municipalities and local boards, since these bodies, as a rule, do not organise separate schemes. In order to secure all possible co-operation, the Dufferin and Mission hospital authorities are invited to become members of the local committees in order that they may actively assist in the supervision of the welfare work in their areas

5. *Bombay.*—(a) *Government and Voluntary*—Maternity and child welfare work is not organised by the official public health department. The Government has given grants to the Bombay Presidency Infant Welfare Society of Rs. 1,000 during 1935, 1936 and 1937 for the Health Visitors' Institute.

The expenditure during 1936 of the Bombay Presidency Infant Welfare Society was Rs. 1,21,791 and that of the Bombay Mofussil Maternity, Child Welfare and Health Council was Rs 19,836—making a total of Rs 1,41,628. Each organisation maintains its own health school.

(b) *Local Bodies and Voluntary*—Municipalities are stated to spend as much as Rs 67,652 per annum on maternity homes whilst the expenditure of the district branches of the Bombay Mofussil Council on similar homes amounts to Rs. 63 226 per annum. The centres maintained by the Mofussil Council are ordinarily inspected by a medical man who works in an honorary capacity, but officers of the medical and public health departments also make inspections.

6 *Bihar.*—(a) *Government and Voluntary*—Maternity and child welfare work in this province is organised by a combination of the medical department and the provincial Maternity and Child Welfare Society. The Inspector General of Civil Hospitals is the Honorary Secretary of the Society and the Director of Public Health is one of the members

(b) *Local Bodies and Voluntary.*—In the *mofussil* areas, the Society works through district committees, the civil surgeon of the district being a member in each case.

7. *Bengal.*—(a) *Government.*—The Director of Public Health reports that the Bengal public health *department* has not so far provided any maternity or child welfare service and has only taken an indirect interest in its development. The activity of the department has been confined to (a) the giving of grants for training of *dais* to local boards and municipalities and to certain voluntary organisations such as the Bengal Health Welfare Committee of the Provincial Branch of the Indian Red Cross Society, the Dacca Maternity Trust and the Sarojnalini Dutt Memorial Association, (b) the giving of a grant to the Bengal Health Welfare

Committee for exhibition and propaganda in connection with maternity and child welfare work; and (*c*) propaganda work in the province through two cinema parties which tour through the province. For these last, provision to the extent of Rs 18,000 is made in the budget of the Director of Public Health.

(*b*) *Voluntary.*—In 1936, the work of the provincial branch of the Indian Red Cross Society was re-organised and a committee called the Bengal Health Welfare Committee, under the chairmanship of the Director of Public Health, was formed to co-ordinate the work of various sub-committees appointed to administer the Calcutta child welfare centres, the Sir John Anderson Health School and the district centres. The honorary secretary of the two former committees is a medical woman and it is hoped that she will later also be able to tour the province and advise on the work of the *mofussil* centres. The provincial branch of the Red Cross Society spends Rs. 36,157 per annum on maternity and child welfare work, this including the maintenance of the above health school.

Meantime, efforts are being made to affiliate all centres in the Presidency to the provincial branch of the Indian Red Cross Society, not so much because it is felt that they need guidance, but because it will further the collection of data on the existing provision and because the annual reports and occasional presence of a district representative at the Committee will be a stimulus to the Committee.

The District Maternity and Child Welfare Committee was constituted in 1937 and includes representative members from each centre in addition to technical experts.

(*c*) *Local Bodies and Voluntary.*—It has been reported that 22 municipal boards and local bodies have organised their own maternity and child welfare schemes, but no further information is available beyond that municipal expenditure on this work totals Rs. 42,516, whilst that of district boards amounts to Rs. 7,195 per annum. Eleven *mofussil* centres are affiliated to the Indian Red Cross Society.

8. *The Central Provinces*—(*a*) *Government and Voluntary.*—The situation in the Central Provinces is similar to that in the United Provinces. The Government grant of Rs. 32,500 is made over *in toto* to the provincial branch of the Indian Red Cross Society and in addition the Government provides Rs 7,994 per annum for the maintenance of the health school. Maternity and child welfare work is organised by a welfare committee of the provincial Red Cross Society, whose members include the Inspector General of Civil Hospitals and the Director of Public Health. The honorary secretary of the committee is the superintendent of the health school. The superintendent who is a medical graduate, but who possesses no public health qualification, is not only expected to take charge of the training of pupil health visitors but is for all practical purposes in executive control of all welfare works in the province. It is obvious that, if the superintendent does justice to health school work, she cannot effectively supervise the organisation and development of *mofussil* welfare centres and, *vice versa*, during her tours of inspection, the training of the pupil health visitors suffers It is difficult to believe that one woman can in practice fulfil both of these functions.

(b) *Local Bodies and Voluntary.*—In his reply to the questionnaire the Director of Public Health states that "branches are organised and controlled by either (i) the District Red Cross Committees or (ii) local committees working independently. Municipal and Notified Area Committees are invariably represented on the local welfare committees and are usually the chief contributors towards the running expenses of the infant welfare centres In two cases, *viz.*, Nagpur and Jubbulpore, the local welfare committee is composed entirely of municipal members There are no official committees administering any welfare centres, but officials are directly represented on such committees and take an active part in its various activities"

The expenditure of municipalities on maternity and child welfare work is stated to amount to Rs. 13,012 *per annum* and that of local boards to Rs. 500 per annum.

[illegible] tres are inspected by the Inspector General of Civil Hospitals, [illegible] Public Health, the Superintendent of the [illegible] dical officers of health Welfare work in [illegible] he direct charge of the medical officers of health ; in Amraoti, [illegible] *he supervision of the local medical officer* of health In many areas, assistant surgeons and assistant medical officers of the medical department are made members of the local welfare committees and in such cases they take an active part in the conduct and maintenance of the centres.

9. *North-West Frontier Province*—In this province, maternity and *child welfare work has not developed to any great extent* *The* public health department maintains two training schools for *dais* and for these Government gives a grant of Rs 26 482 The Provincial Branch of the Indian Red Cross Society also assists the schools and municipal and local boards contribute small amounts towards their maintenance

The Superintendent of the Dera Ismail Khan *dais* training school is a qualified health visitor and in addition she tours the *province to inspect* the work of the *dais* who have passed out from the school and to select women for admission to the next course of training Recently the Superintendent of the *dais'* training school has been transferred to Peshawar as Provincial Organiser

10 *Sind*—(a) *Government and Voluntary*—Maternity and child welfare work is organised by a special committee of the Provincial Branch of the Red Cross Society, the Director of Health Services and Inspector General of Prisons being Chairman. He inspects at intervals all institutions under the Red Cross Society which are concerned with maternity and child welfare work, but the provincial organiser of the Society is a health visitor, although only a part of her time is available for maternity and child welfare work.

The provincial Government gives no grant to the Indian Red Cross Society for mater [illegible] ls 1,000 per annum to the [illegible] mater- nity homes in K [illegible] d Cross Society allots Rs 12,507 per annum to maternity and child welfare work.

11. *Assam.*—As maternity and child welfare work is not organised directly by the Government, the Red Cross Society has accepted responsibility for this activity but no salaried organisers are employed and so far little progress has been made. The Government gives no grant to any voluntary organisation for this purpose and no information is available regarding the expenditure incurred either by the Red Cross or by local bodies

12 This review of provincial maternity and child welfare organisations makes it evident that these have developed along different lines in different parts of the country In Assam, Bengal, United Provinces, Central Provinces N W F Province and Sind, the work is still done by the Indian Red Cross Society and in Bombay, Bihar and Orissa by other voluntary organisations. In the Punjab and Madras Presidency, the work is now largely organised and directed by the official public health departments. As the general campaign develops, the tendency will probably be for Government and local authorities to take over the work in increasing measure This is the usual sequence of events when schemes initiated by voluntary effort develop beyond the resources of the voluntary associations concerned and is one which may be taken as clear evidence that the initial voluntary effort has achieved its purpose. Nor need the voluntary workers necessarily assume that they are no longer required : there will always be scope for their continued interest and assistance. On the other hand, even where Government medical and public health departments have assumed full responsibility for this work, they should take every possible opportunity of enlisting the voluntary workers who can be expected to supplement the more official activities in many useful directions.

In those provinces where no official organisation has yet been developed, the Director of the Maternity and Child Welfare Bureau of the Indian Red Cross Society continues to pay visits and to advise the voluntary associations concerned. On the other hand, in Madras and in the Punjab, the Bureau maintains contact with the work only through grants-in-aid to health schools or to schemes for the training of *dais* and its Director neither makes visits nor offers advice, unless she is asked to do so The role hitherto played by the headquarters Bureau in the maintenance of a certain uniformity in the standard of training at the health schools is mentioned here, only to draw further attention to the present trend. Courses of training in provincial health visitors' schools will probably in future be regulated by the Nursing Councils established in certain provinces under the Nurses Registration Acts. As these Nursing Councils come into being in the remaining provinces, the present role of the headquarters Bureau will in consequence become more and more restricted In the interest of uniformity in the standards of training, it is to be hoped that the various provincial Nursing Councils will keep in close touch with each other. It might indeed be desirable to form a central body for this purpose.

There is little doubt that greater advance in the development of maternity and child welfare work has been made in those provinces where a technical organising and supervisory expert has been appointed, whether by Government or by a voluntary organisation

The most successful schemes seem to be those undertaken by a combination of voluntary and official effort; the driving force and conviction of the former implementing the additional financial support and the administrative guidance of the latter. Equally successful work may be done by local authorities aided by voluntary support or by voluntary effort assisted by public funds Methods will vary in different districts, as all are not equally fortunate in possessing capable and enthusiastic voluntary workers On the other hand, many local authorities have now come to realise the necessity for expenditure in this field of public health work and they should be able to obtain expert assistance in planning their welfare schemes This expert assistance, whether provided by a Government department or by a voluntary organisation, is essential if progress is to be made along correct lines.

The Punjab organisation, namely, official direction of both voluntary and other schemes, provision of Government grants-in-aid and administration of the centres either by local authorities or by voluntary bodies, is one which works smoothly and efficiently and which may be commended to other provinces and States

There are limitations to the employment of non-medical women in the inspection and control of centres. The organisation of schemes and the general direction of welfare activities would appear to be more suitably placed in the hands of a woman medical officer, whilst the supervision of health visitors, midwives and *dais* is best carried out by an experienced health visitor working under the control of that medical officer

The system of grants-in-aid from provincial resources would seem to require development in many provinces These not only stimulate local bodies to improve their services, but give public health departments a measure of control and supervision which this report shows to be urgently required Under other circumstances, the only pressure which can be brought to bear on local authorities is that of persuasion and numbers of local schemes in consequence have developed along lines which cannot be said to be satisfactory.

CHAPTER III.

STATISTICS RELATING TO MATERNITY AND CHILD WELFARE.

1. Indian vital statistics relating to mothers and infants are perhaps subject to even wider margins of error than those of the general population The absence of medical certification and the fact that village *chaukidars* are the agents for registration of vital statistics in rural areas are factors responsible for inaccuracy in mortality statistics at every age period These facts made it essential to define " maternal mortality " in a simple manner easily understandable by the village registrar. Until recently, the definition in force was that every death of a woman occurring within 14 days of confinement should be considered as a case of maternal mortality On the other hand, the inclusion of " all maternal deaths during pregnancy or labour, or within four weeks after the termination of pregnancy or later if the illness originated during pregnancy, labour or puerperium " was considered to provide greater accuracy by the Departmental Committee on Maternal Mortality and Morbidity of the Ministry of Health, England. Apart from omissions, therefore, the previous definition must have been responsible for a further large error in the recorded figures of this country.

In the next place, registration of births is known to be more defective than that of deaths and, when the sex ratios at birth for different provinces are compared, it is fairly clear that, in some areas, omission to register female births is much more common than in the case of males.

TABLE I.

Proportion of males born to every 100 females.

Province.	1924-28.	1929-33	1934.	1935.	1936.
N. W. F. P.	130	130	129	131	130
Punjab	112	112	112	112	112
Delhi	108	108	107	106	109
U. P.	112	112	113	113	113
Bihar and Orissa	104	104	106	106	106
Bengal	108	108	108	112	108
Assam	107	106	107	106	107
C P	105	105	106	105	105
Bombay	108	108	108	108	106
Sind	*	*	*	*	125
Madras	104	105	105	105	105
Coorg	107	107	108	114	108
Ajmer-Merwara .. .	118	116	119	115	113

*Not available.

2. Table I shows considerable consistency in respect of the sex ratio at birth in individual provinces. At the same time, North-Western India has systematically recorded a higher proportion of male births than other parts of the country. The figures given by Newsholme for a number of European countries show a much smaller range of variation, the smallest and largest figures quoted by him being 103 and 106 male children per 100 females born. When countries like England and Italy, which are racially different, show only relatively small differences in this ratio, it is doubtful if the much larger variations found in India can be explained in terms of racial difference alone.

Even in countries where, registration of vital statistics is satisfactory, the figures for still-births are admitted to be incomplete. In India, there is no doubt that the recorded figures give little indication of actual facts.

3. Such statistics as were available have been examined in the light of these preliminary remarks Morbidity statistics for the general community can be obtained only from hospitals and the subsequent discussion is mainly confined to mortality figures

Three types of figures were available for study (1) those contained in public health reports, (2) those collected by special inquiries, and (3) those given in reply to the questionnaire which was sent to all provincial Directors of Public Health and Administrative Medical Officers The figures given in health reports cannot be relied on as a true picture of existing conditions for reasons already given. On the other hand, whilst special inquiries provide more accurate data, in view of their restriction to limited areas, the inferences to be drawn from them are probably not entirely applicable to the country as a whole. The figures given in reply to the questionnaire have been found in many cases to be even less reliable than those contained in provincial health reports. In spite of these limitations, an attempt has been made in the following paragraphs to utilise such statistics as seem to throw light on the extent and nature of the problems associated with maternity and infant and child life in this country.

Maternal mortality and morbidity.

4 *Maternal mortality.*—There seems no doubt that child-bearing exacts a toll of lives in India at least four to five times greater than in those countries where serious attention has been given to the protection of motherhood During 1936, maternal mortality rates recorded in the cities and larger towns ranged between 2·6 and 37·4 per 1,000 births For the different provinces, maternal mortality rates recorded over the six-year period 1931-36 are given in Table II. These, it will be seen, show variations extending from 1·0 to 19·8 per 1,000 births It may be taken that the lower rates, at least, give a very misleading picture of the actual position.

TABLE II.

Maternal mortality rates per 1,000 registered births.

Province	1931.	1932	1933	1934	1935.	1936.
N. W. F. P.	*	*	*	4·5†	*	*
Punjab	*	*	*	*	1·0	1·2
Delhi ..	4·4	5·6	7·0	5·6	4·4	5·4
U. P.	1·2	1·2	1·0	1·4	1·4	1·3
Bihar	*	*	*	*	*	*
Orissa	*	*	*	*	*	*
Bengal	7·7	8·7	9·7	9·3	9·5	9·9
C. P.	7·3	5·8	5·0	6·8	7·9	7·9
Bombay	7·0	5·3	5·8	*	6·2	4·3
Sind	*	*	*	*	*	12·0
Madras	8·7	7·7	7·9	8·5	8·6	8·2
Assam	15·7‡	19·8‡	17·0‡	15·1‡	*	*

*Not available †For 7 towns ‡For 13 towns only

A number of special enquiries conducted in different parts of India have, however, yielded more reliable figures. A few years ago Major General Sir John Megaw carried out an investigation into certain public health aspects of village life in India by collecting from a large number of rural dispensary doctors, distributed all over British India, figures which gave a maternal mortality rate of 24·5 per 1,000 live births. During a more recent inquiry conducted in Calcutta, Dr Neal Edwards found the rate there to correspond with that of General Megaw, whilst in Madras City during 1930-31 Dr Lakshmanaswami Mudaliyar found the rate to be 16·6 per 1,000 live and still-births. An earlier enquiry conducted by the Madras public health department in 1927-28 in four of the largest municipalities of the province, excluding Madras, showed that the rate was 18·5 per 1,000 live births. These several findings suggest that the maternal mortality rate for this country as a whole is probably somewhere near 20 per 1,000 live births, as compared with the 1936 figure of 4·9 per 1,000 live births in England and Wales.

Mention has already been made of the fact that a maternal death was previously defined as a death occurring within 14 days of confinement. In order to bring the definition more into line with modern practice, instructions were issued in 1937 to the effect that all deaths occurring within one month of childbirth should be classified under this heading. Moreover, as mothers, in the case of still-births, are equally exposed to the risks associated with maternity, all Directors of Public Health were asked to calculate their maternal mortality rates on the combined figure for live and still-births.

Prior to the issue of these instructions, the most varied practices seem to have been in force. For example, in the 1936 report of the Director of Public Health, Central Provinces, the maternal mortality rate was said to be calculated on the combined figures for live and still-births, and was given as 7·75 per mensem. In Annual Form VI (*a*) of the appendices to the report, however, the rates for local areas were apparently calculated on the *total* population of these areas Similarly, in the Madras report for 1936, Statement No. 6 of the appendices gives deaths from childbirth as rates per 1,000 of the population Again, in the United Provinces report for 1936, the maternal mortality rate for the province as a whole is given as 7·52 ; but when the rate is calculated from the total live births *plus* still-births and the recorded maternal deaths, this is found to be only 1·25 per mille and on live births alone to be 1·27 per mille In Delhi, Bombay, Bengal and Sind the rates were calculated on live births only, whilst the report for Assam does not show how the figure was reached In the public health reports of N.-W. F. Province, Bihar and Orissa, no maternal mortality rates were given at all The Punjab report states that the maternal mortality rates, in areas served by health centres, varied between 3·9 and 12·0 per 1,000.

5 *Causes of maternal mortality*.—Unfortunately, no general statement can be made in this connection, but figures are available from one or two restricted areas During her enquiry in Calcutta, Dr Neal Edwards was able to classify the causes of 701 deaths from puerperal causes attributable to child-bearing which occurred between June, 1936, and June, 1937, and these are set out in Table III For comparative purposes, the table also includes figures collected by Dr Edwards from 39 women's hospitals distributed all over India These hospital figures have, however, their limitations in that the institutions are situated in the larger towns and cities, so that the patients were mainly drawn from urban areas and included only a small number of delayed and abnormal cases from the surrounding country In addition, figures relating to a hospital population cannot be considered as representative of the general community.

TABLE III.

Causes of maternal mortality.

—	Calcutta		39 women's hospitals in India (1936).	
	No. of deaths.	Percentage of total.	No of deaths.	Percentage of total.
Abortion (septic)	33	4·71	19	2·67
Abortion (non-septic)	4	0·57	5	0·70
Ectopic gestation	6	0·86	2	0·28

	Calcutta.		39 women's hospitals in India (1936).	
	No. of deaths.	Percentage of total.	No. of deaths	Percentage of total.
Other accidents of pregnancy ..	7	1·00	3	0·42
Puerperal hæmorrhage .	74	10·56	82	11 53
Puerperal sepsis ..	224	31·95	231	32·29
Albuminuria and eclampsia	120	17·07	101	14·21
Other toxæmias .	15	2·14	25	3·52
Embolism and sudden death	11	1·57	24	3·38
Other accidents of childbirth	26	3·71	90	12·66
Other puerperal conditions	10	1·43	1	0·14
Anæmia .	165	23·33	128	18·00
Total	701	99·80	711	99·80

The two sets of figures show considerable similarity. Puerperal sepsis, anæmia and toxæmias of pregnancy constitute the most prominent causes in both, whilst hæmorrhage also occupies a high place "Other accidents of childbirth" form a definitely higher percentage in the hospitals group, but this is to be expected because abnormal and serious cases sooner or later find their way into hospital

A comparison of these figures with those of other countries is interesting. Enquiries conducted in England and in Scotland may be cited Whilst anæmia *per se* only very rarely is a cause of death in these countries, the figures in Table IV for some of the other important causes make interesting comparisons.

TABLE IV.

Maternal deaths due to certain causes expressed as percentages of total maternal deaths.

—	Calcutta (1936-37)	39 Women's Hospitals in India (1936)	England and Wales		Scotland (1929-33).
			Special inquiry (1934).	Final Report of Departmental Committee (1932).	
Sepsis	31·9	32·5	34·2	36·3	38
Eclampsia .	14·5	10·5	11·4	10·6	9*
Other toxæmias of pregnancy .	5·6	7·2	10·6	5·8	12
Ante-partum hæmorrhage ..	4·6	6·7	8·1	8·1	8
Post-partum hæmorrhage .	6·0	4·8	3·3	6·7	5
Anæmias	23·3	18 0	0 05	†	0 08

*Including pre-eclamptic toxæmia. †Negligible.

It may be noted in the first place, that the figures for the 39 women's hospitals in India are not strictly comparable with the others because the latter relate to the general population whilst the former deal only with hospital groups The Indian, English and Scottish enquiries all show that sepsis constitutes the commonest cause of death. Nor are the percentages of India under this head, very different from those of *England* and Scotland or of that of New York City which Dr. Edwards also quotes As Dr Neal Edwards has pointed out, " while the maternal mortality rate in India is many times higher than in Western countries, the proportion of deaths from sepsis is strikingly similar and this in spite of the fact that a far larger number of deliveries in this country is attended by untrained women who make no use of modern methods of asepsis and antisepsis

Eclampsia is responsible for a higher proportion in Calcutta than in England and Scotland while " other toxæmias of pregnancy " are relatively lower than in the latter two countries In respect of ante and post-partum hæmorrhages only small variations occur.

6. *Maternal morbidity*—Munro Kerr* has pointed out that the outstanding causative factors of disability arising from pregnancy and childbirth are · (1) toxæmia ; (2) infection ; and (3) trauma. In considering the question of maternal morbidity, account must be taken not only of the immediate but also the remoter disabilities that follow childbearing. In the words of Munro Kerr the main question is " what has it cost the mother in health to produce the family she has when that family is complete ' "

The toxæmias of pregnancy, although their etiology remains largely obscure, are stated by Munro Kerr to take a toll of 20-26 per cent of maternal deaths " in the shape of hyperemesis, nephritis, eclampsia, cerebral hæmorrhage and accidental hæmorrhage " Further their contribution to ill-health of varying duration is still greater

As regards infection, the relative importance of infective lesions of the reproductive tract may be gathered from the following classification of 533 cases among 2,700 women who passed through the wards of the Royal Samaritan Hospital, Glasgow, during 1928-32 The figures in Table V are quoted by Munro Kerr.

TABLE V.

Lesion or group.	Number of cases.	Percentage of the total.
and with		
	152	28 5
	146	27·4
	103	19·3
	59	11·1
(e) Inflammatory hypertrophy of cervix .	57	10 7
(f) Pelvic peritonitis and cellulitis	16	3 0
	533	100 0

*Maternal Mortality and Morbidity by J. M Munro Kerr (1933).

Trauma as a cause of disability is important partly because of its immediate effects and partly because it frequently precedes infection. Table VI gives Glasgow figures also quoted by Munro Kerr ; these indicate the relative influence of infection and trauma in the production of remote disablement.

TABLE VI.

—	Total patients	Puerperal infection an etiological factor	Trauma in child birth an etiological factor.	Cases showing both trauma and infection.
1928 (9 months only) .	2,033	457 (22·5%)	731 (36·0%)	122 (6·0%)
1929	2,841	855 (30·1%)	1,027 (36·1%)	294 (10·3%)
1930	2,860	866 (30·3%)	972 (34·0%)	258 (9·0%)
Total ..	7,734	2,178 (28·1%)	2,730 (35·3%)	674 (8·7%)

These cases are described as coming from " the centre of a densely populated area with a mixed type of population and therefore should be fairly representative of the conditions existing in the general community." It is to be noted that trauma constitutes the more common cause of permanent disablement

As far as is known, few figures of the kind are available in India In a paper read at the 7th Congress of the Far Eastern Association of Tropical Medicine held in Calcutta in 1927, Dr. Margaret Balfour discussed anæmia of pregnancy, eclampsia and osteomalacia as *the* diseases of pregnancy and labour in India. Her sources of information were replies to (1) a questionnaire sent to a number of maternity wards in different parts of the country and (2) a similar questionnaire sent to maternity hospitals in Bombay city and (3) notes taken by herself in Bombay hospitals

Tables VII and VIII are reproduced from her paper.

TABLE VII.

Community.	Number of cases of labour.	Osteomalacia		Eclampsia		Anæmia.	
		Number of cases	Ratio per 1,000 labour cases.	Number of cases	Ratio per 1,000 labour cases	Number of cases.	Ratio per 1,000 labour cases.
Hindu	5,167	160	30·9	79	15·2	148	28·0
Mohammedan .. .	1,273	79	62·0	31	24·3	46	36·1
'Others' (mainly Indian Christian).	1,152	6	5·2	8	6·9	15	13·0

TABLE VIII.

Community	Number of cases of labour.	Osteomalacia: Number of cases	Osteomalacia: Ratio per 1,000 labour cases	Eclampsia: Number of cases.	Eclampsia: Ratio per 1,000 labour cases.	Anæmia: Number of cases.	Anæmia: Ratio per 1,000 labour cases
Hindu	2,066	6	2 9	8	3·8	83	40·1
Mohammedan	842	32	38 0	14	16 6	79	93·8
'Others' (mainly Indian Christian).	801	Nil	Nil	3	3·7	39	48 6

The tables make it quite clear that all these diseases occur most frequently among Mohammedan women, whilst the lowest incidences are to be met with amongst Indian Christians.

The following figures (Table IX) collected by Dr. Neal Edwards from women's hospitals in India may be compared with those given by Dr. Balfour.

TABLE IX.

Contracted Pelvis.

Number of deliveries.	Osteomalacia: Number of cases	Osteomalacia: Rate per 1,000 deliveries.	Other types.: Number of cases	Other types.: Rate per 1,000 deliveries.	Total contracted pelvis.: Number of cases.	Total contracted pelvis.: Rate per 1,000 deliveries.
1936 .. 30,168	664	22 0	467	15·5	1,131	37·5
1935 .. 26,778	559	20 9	461	17 2	1,042*	38·9
1934 .. 21,348	353	16 5	445	20 8	901†	42·2

Anæmia

Number of deliveries	Anæmia of pregnancy.: Number of cases	Anæmia of pregnancy.: Rate per 1,000 deliveries.	Other Anæmias: Number of cases.	Other Anæmias: Rate per 1,000 deliveries	Total Anæmias: Number of cases.	Total Anæmias: Rate per 1,000 deliveries	Eclampsia: Number of cases	Eclampsia: Rate per 1,000 deliveries.
1936 .. 30,168	581	19·3	912	30 2	1,493	49 5	396	13 1
1935 .. 26,778	467	17·4	650	24·3	1,149‡	42 9	390	14 6
1934 .. 21,348	§	§	§	§	592	27·7	293	13·7

* Includes 22 unclassified cases.
† Includes 103 unclassified cases.
‡ Includes 32 unclassified cases
§ Not available.

The figures in Dr. Balfour's first table were collected from different parts of India and are therefore comparable with those given by Dr. Neal Edwards. The combined rates for the three communities in the former are 32·3, 27·5 and 15·5 per 1,000 deliveries for osteomalacia, anæmia and eclampsia respectively In the latter, the rates for contracted pelvis due to osteomalacia are smaller but, when all forms of contraction are included, the rates for all three years are higher. Dr. Neal Edwards' rate for "all anæmias" in 1934 closely approximates to Dr Balfour's figure, although those for 1935 and 1936 are definitely higher For eclampsia, the two enquiries show little difference

While, as Dr Neal Edwards has pointed out, there is a large personal factor in judging what constitutes contraction, figures published* by her give some idea of the relative frequency of this condition in different parts of India The distribution is undoubtedly influenced by the prevalence of osteomalacia in the areas concerned The following statement gives comparative figures for contracted pelvis in hospitals attached to certain teaching institutions :—

Lady Hardinge Hospital, New Delhi	..	1 in 11 deliveries.
Agra Maternity Hospital ..	..	1 in 15 "
Cama Hospital, Bombay ..	..	1 in 35 "
Memorial Hospital, Ludhiana ..	..	1 in 41 "
Caste and Gosha Hospital, Madras	..	1 in 90 "

The incidence of eclampsia is known to vary considerably in different parts of India Figures for women's hospitals during 1934 show that the eclampsia rate per 1,000 deliveries varied from 51·1 in the American Mission Hospital, Madura, Madras Presidency, to *nil* among 745 deliveries at the Lady Hardinge Medical College at New Delhi. Madras, Trivandrum, Hyderabad, Calcutta, Vellore and Poona recorded rates over 19 per 1,000 deliveries whilst in North-Western India, the cities of Delhi, Agra and Ludhiana reported much lower incidences It will be observed that, broadly speaking, the incidence of osteomalacia and of eclampsia vary inversely as one passes from the north to the south of India. The former condition has a high prevalence in the north-west of India and is rarely to be met with in Madras, whilst in respect of eclampsia the opposite occurs

As regards anæmia, this condition is known to exist all over India, although in other countries little mention is made of it as a cause of maternal death. In the Report on "Maternal Morbidity and Mortality in Scotland", for instance, only 19 deaths were attributed to severe anæmia out of a total of 2,527 cases investigated, whilst an English inquiry conducted in 1934 recorded only four deaths from anæmia out of a total of 770.

As the result of her Calcutta investigations Dr. Neal Edwards states that "severe anæmias of both the macrocytic and microcytic type, as well as mixed forms, are extremely common and, while some cases are associated with poverty and malnutrition, many others occur among the well-to-do families that seem healthy and well-nourished." She also recognises a relationship between "dysentery and diarrhœa" and severe anæmia of pregnancy and considers that the development of anæmia might often be the result of intestinal infection.

*Journal of the Association of Medical Women in India, August, 1937.

Dr Mudaliyar, in a series of 436 maternal deaths in Madras City, classified 50 or 11.5 per cent. as due to anæmia and drew attention to two forms of the disease, one a macrocytic type and another secondary to hookworm infection.

The wide prevalence of anæmia as a complication of pregnancy demands that further investigations should be carried out in different parts of the country in order that adequate preventive measures may be formulated. Enquiries are now in progress in Calcutta and among the *women labourers of plantations in Assam and it is hoped these will throw* further light on this serious problem.

One or two points remain to be considered. A few years ago Sir John Megaw estimated that maternal deaths in British India amounted to approximately 2,00,000 per annum. It has already been pointed out that, from available evidence, the maternal mortality rate may reasonably be assumed to be 20 per 1,000 live births. In 1936, the number of recorded live births in British India totalled nearly 10 millions Using these figures, we again arrive at the figure of 2,00 000 maternal deaths per annum. When it is remembered that registration of births may be in defect to the extent of 20 per cent, it will be realised that the above total is a very conservative estimate of the toll paid by the women of this country in the discharge of their reproductive function.

Death, however, is frequently only the final release from prolonged invalidism. No figures are available which might permit of an estimate of the amount of ill-health caused by child-bearing among the women of this country. If English figures may be taken as any criterion, it follows that at least 30 per cent. of all Indian mothers suffer from disabilities of greater or less degree Even that figure enables one to visualise the magnitude of the problem to be faced in planning a preventive campaign for a healthy motherhood

Foetal deaths, still-births and neo-natal deaths.

7. Foetal deaths, still-births and neo-natal deaths may be considered together because their causative factors are frequently the same. *Reliable statistics for foetal deaths are not available even in countries where* registration of vital statistics is satisfactory. According to Munro Kerr, however, " it has been estimated that 15 of every 100 conceptions terminate with premature death of the foetus, while the incidence of still-birth is generally considered to be about 3·3 per cent Taking these facts into consideration it would not seem to be an overestimate to place the foetal death-rate at 185 per 1,000 conceptions "

A valuable study of this question was carried out in this country by Dr. Christine J. Thomson during 1929-30. Her report is based partly on post-mortem examinations of 200 cases of still-birth and neo-natal death and partly on some 3,700 replies to a questionnaire addressed to hospitals all over India

Figures for the principal causes of still-births and neo-natal deaths in the Presidency towns of Bombay, Calcutta and Madras and the average for five British cities as given by Holland and Lane-Claypon (1926) in an investigation covering 1,311 cases are given in Table X.

TABLE X.

Principal causes of still-births and neo-natal deaths in percentages.

—	Bombay	Calcutta.	Madras.	Five British cities.
1. Complications of labour . .	32 2	32 9	30 6	34·8
2. Ante-partum hæmorrhage .	11 5	8 8	10 4	18·9
3. Toxæmias of pregnancy .	6 2	17 1	13 2	12·3
4. Maternal states .	18 2	11·6	16 3	2 6
5. Syphilis	1 2	2 4	1 3	8·6
6. Foetal states	4·8	2 6	2 6	10·3
7. Prematurity, *per se*	16 1	17·5	12·7	3 2

The percentages of "complications of labour" in the Presidency cities approximate to that for Great Britain, but Dr. Thomson's report shows that in the Punjab, the United Provinces and Kashmir, where osteomalacia is prevalent, much higher ratios than the British figure are to be found.

"Ante-partum haemorrhage" is not so important a causative factor in this country as in Great Britain, but Dr. Thomson points out that, "as in the West, it shows the same tendency to occur in multiparae and to bring about a premature termination of pregnancy."

The uneven distribution of the incidence of eclampsia has already been mentioned. "As in the West the bulk of the eclamptic mothers are primipara."

"Maternal diseases" seem to play a much more important part in India than in Great Britain ; this may be due to the prevalence of tropical diseases such as malaria.

In Dr. Thomson's opinion "prematurity" *per se* is a primary cause of considerable importance in this country. She pointed out that, "in the three large Presidency cities, 59·64 per cent. of all dead-born children and cases of early infantile mortality were prematurely born."

A preventive campaign against neo-natal mortality and foetal death presents a problem of great complexity. Whilst in Western countries remarkable progress has been made within the past few decades in the reduction of infantile mortality, most of that reduction has been effected amongst those infants who survive the first month of life. According to Munro Kerr, "at the present time half the infants who die in the first year of life perish before they are a month old. Death reaps as big a harvest in the first month of life as it does in the eleven subsequent months" The question of neo-natal mortality will be further considered along with that of infantile mortality.

Infantile mortality.

8 In his annual report for 1930, the Public Health Commissioner discussed at some length the question of infantile mortality and also gave graphs for British India and for the provinces showing the trend of infantile mortality rates during the period, 1892-1930. These graphs have been extended up to 1936 and are appended. Their striking feature is a general decline from 1918 onwards Whilst the maternity and child welfare movement started in this country about 1918, this apparent decrease in mortality is much greater than can be attributed to the beneficent effects of that movement. The Public Health Commissioner in fact expressed the view that continuous improvement in the registration of births had played a greater part.

The question, whether any significant reduction in infantile mortality has occurred, has recently been investigated by the Department of Vital Statistics and Epidemiology of the All-India Institute of Hygiene and Public Health, Calcutta Because, in view of improved registration, the infantile mortality rates of more recent years were not strictly comparable with those of an earlier period, the figures for the decennium 1926-35 were used and it was found that no significant decline was demonstrable for British India as a whole The same investigation made an interesting comparison between the rates of reduction of infantile mortality in British India and in England and Wales between 1912 and 1936.

Means and ratios of infantile mortality rates of British India and England and Wales.

Mean of—	India.	England	Ratio.
1912-16	204	102	2 0
1917-21	217	89	2 4
1922-26	181	73	2·5
927-31	176	67	2·6
1932-36	173	61	2·8

The average quinquennial infantile mortality in British India, in spite of an appreciable fall since 1912, is now 2·8 times that of England, although during the first quinquennium given above it was only twice as high. The rate of fall has, therefore, been much slower than that of England

9. Table XI gives relevant figures for British India and the provinces in respect of the distribution of infantile mortality for the different age periods during the first year of life ; the percentages for England and Wales (1935) are also given for comparative purposes

TABLE XI.

Deaths at varying periods in the first year of life in British India and the provinces during 1936, expressed as percentages.

—	Deaths under one week as percentage of deaths under one month.	Deaths under one week as percentage of deaths under 1 year.	Deaths under one month as percentage of deaths under 1 year.	Deaths between one to six months as percentage of deaths under 1 year	Deaths between six and 12 months as percentage of deaths under 1 year.	Infantile mortality rate per 1,000 live births.
*England and Wales (1935).	72 5	38 7	53 4	29 6	17 1	57·0
British India	59 8	28 3	47·3	31·2	21 5	162·4
N. W. F. Province .	51·7	18 2	35 1	37 8	27 1	121 7
Punjab . .	55 6	21 3	43 8	28 8	27 4	158 4
Delhi	56 8	20·1	35 4	37 5	27 1	162·8
United Provinces .	64·6	27 7	42 8	34 8	22 4	148 5
Bihar ..	71 2	36 0	50 6	30 5	18 9	118·0
Orissa	58 2	28 3	48 6	31 2	17 3	109 8
Bengal	56 9	32 1	56 5	28 3	15 2	170 9
Central Provinces	43 7	20 8	47 7	27·4	24 9	235·0
Bombay .	56 1	21·7	39 6	36·1	25 3	166·1
Sind	53 3	21 6	40 6	34 4	25 0	121 6
Madras . ..	67 3	36 4	54 0	23 5	22·5	164·1
Coorg	57 7	29 7	51 6	26 1	22 3	181·3
Assam	54·8	28·1	51·2	30 9	17 9	160·8
Ajmer-Merwara ..	55·2	16·0	28 9	38 3	32·8	174 1

*The figures for England and Wales are published not for the first month of life but for the first four weeks. Although the periods are not equivalent, the discrepancies between the English and Indian rates are not likely to have been influenced to any great extent by this factor.

In comparing these percentages for British India with those for England and Wales it must be remembered that the error due to mis-statements of age is likely to be greater in the former. Taking the figures as they stand, however, the percentage of neo-natal deaths to total infantile deaths is higher in England than in India, particularly during the first week of life In both countries, about half the mortality of children under one year takes place during the first month, whilst the second six months period records the lowest rate. Provincial rates for neo-natal mortality show considerable variation, the figures ranging between 28·9 per cent in Ajmer-Merwara and 56·5 per cent. in Bengal

Causes of infantile mortality.

10. Table XII sets out the chief causes of mortality in infants in Bombay City during the years 1932 to 1936.

TABLE XII.

—	1932.	1933.	1934.	1935.	1936.
All causes	6,298	8,320	8,253	8,455	8,946
Small-pox	69	717	33	306	214
Measles	16	18	27	60	42
Malaria	4	9	9	9	3
Remittent and undefined fever ..	147	167	186	146	114
Diarrhoea and enteritis	280	414	455	425	539
Dysentery	27	19	40	41	48
Debility, malformations and premature births.	2,685	3,019	3,384	3,280	3,651
Respiratory diseases	2,217	2,828	2,983	3,039	3,174
Convulsions	422	594	562	563	683
Other causes	431	535	574	586	478

It will be noted that the largest figures relate to two groups of causes, "debility, malformation and premature birth" and "respiratory diseases." Dr. Christine Thomson's inquiry showed that prematurity is a very common cause of still-births and neo-natal deaths in this country. "Debility, malformation and prematurity" all relate to pre-natal causes, whilst deaths due to "respiratory diseases" are mainly influenced by adverse environmental conditions It might, therefore, be anticipated that a majority of the infantile deaths due to the first group of causes would take place within the first month or even the first week of life and that most of the deaths due to respiratory diseases would occur in subsequent months. This anticipation is verified by the following figures taken from the 1936 Bombay City Health report :—

Age-periods.

—	Under 1 week.	1 to 4 weeks.	4 weeks to 6 months.	6 to 12 months
Infantile debility, prematurity, malformation, etc.	88·3	75·6	22·4	4·7
Respiratory diseases	1·0	3 8	46·7	67·2

The figures in this statement represent the percentages, of the deaths from each specific group of causes, of the total number of deaths at the particular age-period. The percentages for the first group decline progressively as the infants grow older, whilst those of the second group steadily increase.

Child mortality.

11. A high rate of infantile mortality is also commonly accompanied by a high death rate in the later ages of child life, because disease, when it does not kill, leaves the infant maimed and more liable to infection. Table XIII sets out the mortality rates for children under 10 years at different age-periods for British India and for individual provinces in 1936. The corresponding rates for England and Wales in 1934 are also given for purposes of comparison.

TABLE XIII.

—	Under one year.	% of total deaths.	1—5 years.	% of total deaths.	5—10 years	% of total deaths	Total under 10 years	% of total deaths.
England and Wales (1934).	..	7 3		3·2		1·6	..	12·1
British India ..	1,620,816	25·4	1,144,375	17 9	344,152	5 4	3,109,343	48 8
N.-W. F. P. ..	9,372	22 2	7,027	16·6	2,379	5·6	18,778	44·4
Punjab ..	174,144	31 0	96,174	17 1	30,532	5 4	300,850	53 5
Delhi ..	5,024	30 8	2,700	16·5	621	3·8	8,345	51·1
U. P. ..	280,359	25·6	222,927	20 4	46,058	4 2	549,344	50 2
Bihar ..	134,970	19 2	144,873	20 6	43,554	6·2	323,297	46·0
Orissa ..	50,651	26·2	28,891	14 9	9,240	4 8	88,782	45·9
Bengal ..	285,956	23·4	189,738	15·5	89,101	7 3	564,795	46·2
C. P. ..	153,036	28 6	120,470	22 5	26,935	5·0	300,441	56·2
Bombay ..	123,289	24·8	105,933	21·3	22,038	4 4	251,260	50·5
Sind	9,649	19·9	6,687	13·8	2,330	4 8	18,666	38·5
Madras ..	272,393	26 6	159,897	15 6	48,033	4·7	480,323	46·9
Coorg .	709	18 2	421	10 8	205	5 2	1,335	34·1
Assam ..	36,152	23·2	25,113	16·1	10,823	7 0	72,088	46·3
Ajmer-Merwara	4,090	29·0	2,965	21·0	437	3 1	7,492	53·2

Child mortality rates at the different age-periods are from three to five times higher in India than in England For the whole period 0-10 years, the death rate among children in India is four times as high as in England.

The question has frequently been asked if the saving of weak and defective infants by intensive public health efforts is not detrimental to the welfare of the community by increasing the number of the unfit The experience of England, where remarkable progress in the reduction of

infantile mortality has occurred during the past few decades, does not support this view, for this reduction has been accompanied by a corresponding decline in the mortality rates of subsequent age-periods. In the words of the Chief Medical Officer of the Ministry of Health, "at ages 1-2, 2-3, 3-4, and 4-5, the rate of mortality in 1926-32 was less than one-quarter of the corresponding rate in 1861-70 and less than one-half the rate of 1901-10. Even in the years of adolescence, 15-20, where some slackening in the rate of decline is observed, the death-rate in 1921-30 was only 39 per cent. of that registered in 1861-70. So far then as rates of mortality are to be trusted, it is certain that the spectacular fall of infant mortality within the century has not been associated with any deterioration of mortality rates at later ages. That improvement of the environmental conditions of infancy has been at the expense of later ages, is a proposition unsupported by any evidence."

This brief review of infant, child and maternal mortality statistics has elucidated a number of salient facts which all go to support the belief that a high percentage of the deaths of mothers and infants is preventable. They also prove the necessity for a widespread preventive campaign. How that campaign should be planned is set out in succeeding chapters.

CHAPTER IV.

MATERNITY SERVICES.

1. Control of maternal mortality and morbidity, of foetal deaths, still-births and neo-natal deaths and debility lies in the provision of better maternity services. These services comprise the protection of motherhood during the pre-natal, natal and post-natal periods. For the sake of convenience these aspects of maternity and child welfare are considered separately from the infant and child welfare services, but the essential unity of the care of the mother in her capacity as wife, expectant and nursing mother and as guardian of the family's well-being must be kept in mind.

The maternity services are provided partly by medical and public health authorities and partly by voluntary organisations. Maternity beds in hospitals and dispensaries are as a general rule under the control of the medical department Maternity homes may be under the public health or the medical department, or both kinds of institution may be maintained by voluntary organisation and be under the control of neither In the same way, doctors and midwives may be employees of the medical department, the public health department, voluntary bodies or in private practice ; some are under supervision by one authority, some by another and some completely independent and uncontrolled. Pre-natal clinics are similarly distributed.

Unity of purpose and intimate contact between the various departments is perhaps more vital in the field of maternity and child welfare than in any other sphere of medical and public health work, and the means of securing co-operation, co-ordination and continuity in the care of the mother require careful consideration. In this connection, it may be noted that, in two provinces, namely, the United Provinces and the Punjab, the post of woman assistant to the Inspector-General of Civil Hospitals has been created, whilst in Madras there is a woman Assistant to the Director of Public Health. At one time, the woman medical assistant to the Inspector-General of Civil Hospitals, United Provinces, was also the Director, Maternity and Child Welfare, under the Provincial Branch of the Indian Red Cross Society and was thus able to supervise all medical and public health work amongst women and children during her tours throughout the province.

Effective contact between institutional midwifery and the domiciliary service is dependent on mutual co-operation between the provincial medical and public health departments The question whether one medical woman either attached to the medical or the public health department can direct and supervise both the curative and preventive aspects of medical work merits consideration Such an arrangement would facilitate the required co-ordination and would be economical of time, energy and money Given medical women with a sound knowledge of both aspects of the work this is a policy offering a reasonable solution to the question

Pre-natal care

2. Adequate pre-natal care demands the examination of the mother at least once a month when, in addition to an assessment of her health, specific

infantile mortality has occurred during the past few decades, does not support this view, for this reduction has been accompanied by a corresponding decline in the mortality rates of subsequent age-periods In the words of the Chief Medical Officer of the Ministry of Health, "at ages 1-2, 2-3, 3-4, and 4-5, the rate of mortality in 1926-32 was less than one-quarter of the corresponding rate in 1861-70 and less than one-half the rate of 1901-10 Even in the years of adolescence, 15-20, where some slackening in the rate of decline is observed, the death-rate in 1921-30 was only 39 per cent. of that registered in 1861-70 So far then as rates of mortality are to be trusted, it is certain that the spectacular fall of infant mortality within the century has not been associated with any deterioration of mortality rates at later ages That improvement of the environmental conditions of infancy has been at the expense of later ages, is a proposition unsupported by any evidence"

This brief review of infant, child and maternal mortality statistics has elucidated a number of salient facts which all go to support the belief that a high percentage of the deaths of mothers and infants is preventable. They also prove the necessity for a widespread preventive campaign. How that campaign should be planned is set out in succeeding chapters.

Institutional Midwifery, Calcutta, 1935—contd.

Name of Institution.	Pre-natal clinic.	No. of Obstetric beds.				No. resident medical staff.		No. midwives.		Total deliveries.	Remarks
		Pre-natal.	Maternity.	Others available.	Total.	Graduates.	Licentiates.	Trained.	Pupil.		
Corporation Maternity Homes											
1. Baldeodas	No	No	35	No	35	1	1	5	0	2,591	Corporation certificate.
2. Kidderpore	No	No	24	No	24		1	4	.	931	Board of Examination appointed by Corporation.
3. Chetla ..	No	No	40	No	40	.	1	3		657	Vernacular training
4. Manicktola	No	No	20	6 (septic)	26	.	1	3		208	

Four of the six hospitals accepting midwifery pupils and two hospitals training medical students have no pre-natal clinics. There is no doubt that pre-natal care should be a function of all teaching hospitals. It may not be practicable, for many years to come, to provide skilled attendance for all confinements, particularly in the rural areas, but it need not be considered impracticable to provide some facilities for pre-natal examination, so that the more serious abnormalities at least might be prevented. This, however, depends on the training given in pre-natal work.

The prejudices of the mother, her carelessness about her own health and her ignorance of the value of pre-natal care or of the facilities provided are a serious handicap to adequate supervision. The most successful remedy lies in visiting the mother in the home. Home visiting is discussed in a subsequent chapter and it need be mentioned here only to stress its vital importance.

It has unfortunately proved impossible, from the replies received, to construct a table showing the number of pre-natal clinics attached to maternity hospitals and homes or to welfare centres Not only are the replies incomplete, but several give the number of pre-natal *sessions* conducted during the year instead of the number of *clinics.* About 20 per cent of the 828 welfare centres given in Table XIX (page 51) profess to look after the health of the expectant mother, but few have a visiting doctor and many are staffed by midwives who have little or no training in pre-natal work and are unaware of the technique of home visiting or the importance of preventive and constructive health measures

Two types of pre-natal clinic are required. The central or consultative clinic where obscure conditions can be investigated and the treat-

ment of disease undertaken and the outlying or subsidiary clinic where emphasis is laid on the promotion of health through the education of the mother in the hygiene of pregnancy and on the diagnosis and amelioration of minor degrees of ill-health. The former corresponds to the hospital pre-natal department and draws its cases from a wide district ; the latter to clinics held in maternity homes and welfare centres and covering a circumscribed area round the centre or home. Systematic home visiting of all expectant mothers in the area is only possible in conjunction with the latter type of centre. The role of each type of clinic is distinct yet mutual co-operation and reciprocity is essential to secure this Some form of duplicate records is required to facilitate transference of the patient from one clinic to the other while providing for continuity and uniformity in the care of the mother.

It is desirable that every teaching and large maternity institution should have attached to it a qualified health visitor. Whilst her duties cannot be so clearly defined as those of a health visitor in a welfare centre, she will be fully employed in work connected with the specialised type of patient sent to a woman's or maternity hospital and will also to some extent perform duties ordinarily carried out by a hospital almoner. She would not be concerned with the collecting of cases from outlying areas but would only attend to the cases after they come to the hospital out-patient department.

Medical supervision of the expectant mother is by no means easy to arrange. For the medical staffing of the clinic the choice lies between the private practitioner, the doctor attached to the local hospital or dispensary and a touring maternity and child welfare officer. Obviously continuity of care in the pre-natal and intra-natal periods can best be secured by the two former methods, the services of the doctor responsible for the pre-natal examination being thus available when necessary for the actual confinement Where medical men or women with sound training and subsequent experience in obstetrics are available, this method is to be encouraged. For other areas, the touring maternity and child welfare officer seems to be the only feasible solution. In this connection it is interesting to note that the Inspector General of Civil Hospitals, Punjab, in 1938 issued a circular laying down attendance at the pre-natal session held in the welfare centre as one of the duties of medical women attached to institutions under the medical department.

A considerable proportion of women attending the pre-natal clinics require admission to hospital for the treatment of the graver disorders of pregnancy or for intercurrent disease during pregnancy and for the adequate care of such cases special pre-natal wards are desirable. Information in respect of the number of beds, especially reserved for pre-natal cases, has not been made available, but the number is believed to be negligible and reference to Table XIV, which shows that not a single hospital in Calcutta has a special provision, bears out this assumption, although these cases are on occasion admitted to the *general or gynæcological* wards

Intra-natal care.

3. For the actual conduct of maternity work, there are two *types* of services · (*a*) institutional and (*b*) domiciliary. These will be discussed separately, but close co-ordination between the two *is essential*.

(a) *Institutional midwifery.*—Before reviewing the existing services it has seemed desirable to try to estimate the number of beds required for labour cases. These may be admitted to hospital because of obstetric abnormalities or poor general health ; others because home conditions are unsuitable for the confinement. A proportion of mothers will seek admission from choice and beds are also required for primiparæ in whom labour may be prolonged or dangerous. Detailed information regarding the percentage of cases admitted under each of these heads is almost entirely lacking and the following estimate of requirements, based on Western experience, is purely tentative. The number of beds required will of course vary from province to province with the customs, habits and education of the people ; the prevalence of osteomalacia, eclampsia and anæmias ; and housing and other environmental conditions. For general guidance, however, some standard is desirable.

Munro Kerr in his "Maternal Mortality and Morbidity" estimates that in industrial areas the minimum institutional accommodation should provide for 15-20 per cent of deliveries on account of abnormalities. This does not include provision for primiparæ or for women who elect for their own convenience to go to hospital Housing conditions in India are generally unsuitable and abnormalities associated with child-bearing common ; the provision needed may therefore be estimated for urban conditions as 30-40 per cent of all confinements This estimate, which may not be of general application, has been calculated as follows :—

	Per cent.
Provision for pre-natal and natal abnormalities .	10—15
Primiparæ	10—15
Women who elect to go to hospital .. .	5
Unsuitable housing conditions	5
	30—40

Allowing each case an average of 12 days in hospital, one bed will accommodate 30 births per annum. On the further assumption that provision should be made for 30 per cent of births, the minimum requirement will be one bed for approximately every 100 births, although actual requirements may be considerably in excess of this figure. In Bombay city, for instance, where the women are more willing to go to hospital, about 70 per cent. of all registered births take place in hospital and one bed is available for approximately every 30 births.

In rural areas, where less overcrowding and less general ill-health exist, a smaller number of beds will suffice provided a satisfactory domiciliary service is available.

The replies to this section of the questionnaire give details of the various classes of hospital maintained in the different provinces and of the number of beds maintained in these institutions for midwifery cases. Table XV has been compiled from the answers received. Wide variations are seen, ranging from 48 and 13 maternity beds in the urban and rural areas respectively of Orissa to 2,436 and 199 beds in the urban and rural areas of Bombay Presidency. Although the questionnaire was drawn up with a view to eliciting information with a minimum of trouble, the figures submitted are in certain cases open to grave doubt. In consequence the table can only be regarded as giving a general view of existing hospital provision for maternity cases.

TABLE XV.

Name of Province or State.	Urban.			Rural.		
	Number of births in 1936.	Number of Maternity beds	Ratio of Maternity beds per 100 births	Number of births in 1936.	Number of Maternity beds.	Ratio of Maternity beds per 100 births.
N. W. F. Province .	10,404	122	1·1	66,594	2	·003
Punjab .. .	125,443	2,091	1 7	973,703	172	·02
Delhi	21,229	147	·7	9,630	Nil	Nil
U. P. .. .	261,439	750	·2	1,626,159	102	·006
Bihar . .	30,087	253	·8	1,113,921	12	·001
Orissa . ..	5,631	48	·8	249,066	13	·005
Bengal . ..	84,855	600	7	1,588,351	33	002
C. P. . .	76,962	245	·3	574,306	15	·002
Bombay	130,000	2,436	1·8	612,331	199	·032
Sind	26,074	466	1·7	52,862	73	·14
Madras	149,988	1,051	·7	1,509,637	262	·017
Assam	6,349	104	1·6	233,355	16	·007
Hyderabad State ..	..	224	..	..	15	..
Mysore State ..	30,088	780	2·5	106,481	100	·09
Jodhpur State ..	..	10	..	..	..	...

If the standard of one bed per 100 births, regarded as reasonable in Western countries, be accepted, the figures in Table XV would show that provision is adequate in the urban areas of the N.-W. F. Province, the Punjab, Bombay, Sind and Assam, and fairly adequate in Delhi.

Bihar, Orissa, Madras and Bengal In some areas, a large proportion of the beds for maternity cases are shown as being maintained in general wards, which must be regarded as only a makeshift arrangement. On the other hand the provision of maternity beds in rural areas is utterly inadequate throughout the whole of India, although it must be remembered that the maternity beds in urban areas are used to a certain extent by women from rural areas

In most provinces, the majority of these beds are provided in hospitals maintained either by Government, municipal boards or local bodies, but, in the United Provinces, the Dufferin Fund maintains 74 urban and 11 rural hospitals which provide 284 and 8 maternity beds respectively It must be remembered, however, that the distribution of available beds is by no means uniform

As the result of a rapidly increasing demand for admission to maternity hospitals and maternity homes, small maternity homes organised by voluntary or private effort are springing up all over India. Many of these are, unfortunately, sited in unsuitable buildings and placed under the charge of illiterate *dais* incapable of taking temperatures or of keeping records and with but a faint appreciation of asepsis and isolation.

In England, it has been found necessary to register and inspect maternity homes in order to ensure a reasonable standard of equipment, staff and safety for the mothers Should the development of private maternity homes in India increase with the same rapidity in the future as it has in recent years, their supervision will shortly become a matter of some urgency Suitable control might be exercised by a system of licensing and by inspection conducted by governmental medical and public health departments

The respective rôles of the maternity hospital and the maternity home are rarely fully appreciated, consequently maternity homes are frequently called upon to assume the functions of a hospital The rôle of the maternity hospital is to admit all emergency or unbooked cases, all major operations and to conduct a consultative pre-natal clinic It is desirable also that it should have wards for well and sick children and a gynæcological department The planning, equipment and staffing must therefore be of a high order and the hospital consequently an expensive institution The maternity home should confine itself to the conduct of " booked " confinements which are expected to be normal thus doing away with the necessity for much theatre equipment, the frankly septic blocks and permitting of a smaller staff. Homes maintained by public bodies or by voluntary organisations should have a pre-natal department and may arrange a domiciliary service For these reasons it should work in a circumscribed area in distinction to the hospital which draws its cases from a whole district or province

Medical women employed in institutional midwifery.

4. By means of the questionnaire, figures have also been obtained in respect of the number of medical women employed in maternity hos-

pitals and homes. Table XVI gives details for the individual provinces:—

TABLE XVI.

Name of Province or State.	Number of beds maintained for midwifery cases.	Number of medical women employed in hospitals or homes.		
		Graduates.	Licentiates.	Total.
N.-W. F. Province ..	124	6	10	16
Punjab	2,263	43	80	123
Delhi	147	8	4	12
United Provinces ..	852	78	164	242
Bihar	265	17	48	65
Orissa	61	3	9	12
Bengal	633	15	27	42
Central Provinces ..	260	29	15	44
Bombay .. .	2,635	88	63	151
Sind	539	14	12	36
Madras	1,313	96	165	261
Assam .. .	120	2	17	19
Hyderabad State ..	239	12	32	44
Mysore State	880	17	39	56
Jodhpur State . ..	10	3	4	7

The largest numbers of medical women are employed in the U P the Punjab, Bombay and Madras In the Punjab, U P. and Bombay most of these medical women are said to be employed by non-official bodies, by which presumably is meant Missionary and Dufferin Hospitals *In Madras, the Provincial Government employs the majority*

Midwives employed in institutional midwifery.

5 Table XVII gives the numbers of midwives employed in hospitals and maternity homes in each province. Although it is desirable to have one midwife for every three beds, one to five may be regarded as a reasonable provision According to the table, this proportion of one to three exists approximately in Bengal, the United Provinces, Bihar, the Central Provinces, Bombay and Madras. In some provinces, the figures indicate that the proportion approaches to one midwife for every two beds This

seems too good to be true and in these instances the replies can only be accepted with caution. A possible explanation is that every midwife attached to the institution, whether actually doing midwifery or not, has been included in the returns.

TABLE XVII.

Name of Province or State.	No. of beds maintained for midwifery cases.	No. of midwives employed in hospitals and homes.	Proportion of beds to every midwife.
N.-W.F. Province	121	8	15·5
Punjab	2,263	187	12·1
Delhi	147	23	6·2
United Provinces	[illegible]	258	3·3
Bihar	[illegible]	87	3·0
Orissa	61	56	1·0
Bengal	633	269	2·3
Central Provinces . .	260	130	2·0
Bombay	2,635	625	4·2
Sind . . .	539	47	11·4
Madras	1,313	630	2·0
Assam	120	39	3·0
Hyderabad State	239	32	7·4
Mysore State .. .	880	163	5·3
Jodhpur State ..	10	33	0·3

As hospitals and their staffs are expensive, before embarking on a general policy of hospitalisation for maternity cases, provincial Governments and municipal and local authorities would be well advised to consider the development of domiciliary services

Domiciliary Midwifery.

6 Domiciliary midwifery is relatively easy to provide, cheaper to maintain and meets the requirements of the normal confinement even where home conditions are by no means ideal

The midwife is, of course, the most important unit in a domiciliary scheme and, if the figures can be accepted, Table XVIII shows how insufficient this staff is in most of the provinces.

TABLE XVIII.

Staffs employed in domiciliary midwifery by local bodies and voluntary associations.

Province or State	No of total births in 1936	No of medical women for domiciliary midwifery.	No of midwives, assistant midwives and nurse *dais*	No. of trained indigenous *dais*.	No of births per midwife
N.-W F P	76,998	18	13	36	5,923
Punjab* ..	1,099,146	1	1	..	1,099,146
Delhi	30,359	3	27	30	1,142
U P. .	1,887,598	133	303	573	6,229
Bihar	1,144,008	17	56	23	20,428
Orissa	254,697	10	30	2	8,489
Bengal	1,673,206	21	90	218	18,591
C P	651,268	21	140	220	4,652
Bombay	742,331	26	148	21	5,015
Sind	79,536		16	30	4,971
Madras	1,659,625	35	436	..	3,782
Assam	239,704	17	33	9	7,263
Hyderabad State	163,226		4	70	40,806
Mysore State	136,569	2	326	.	419
Jodhpur State			1	5	..

*Large numbers of nurse *dais* and trained *dais* are available for private employment

Under the English Midwives Act of 1936, every local authority is bound to provide an adequate staff for domiciliary midwifery Whilst no definite figure is laid down, one midwife per hundred births is becoming accepted as a reasonable figure The last column in Table XVIII shows how far India lags behind in this respect

Some provinces report that as many as 70 per cent of births take place without any skilled attention for the mother. This figure probably understates the case Table XVIII also shows that every province, with the exception of Madras and Punjab, employed trained *dais* in their domiciliary midwifery organisation

The midwife is capable of dealing only with normal cases ; for others she requires assistance either from private practitioners, from specialists attached to women's hospitals or from medical women with experience in maternity and child welfare work. Most of the provinces report that the [illegible] hospitals and maternity homes are available [illegible] it is almost certain that their services are [illegible] extent

The replies to enquiries in respect of the numbers of medical women employed in domiciliary midwifery show that apart from those employed in midwifery institutions, the provision is almost negligible, except in the U P., Madras and Bombay and even in these provinces the figures are very small.

pre-natal clinics, sterile equipment, medical skill and hospital admission. The midwives are also able to work in a roster, so that periods of rest and leisure can be obtained, whilst contact with the institutional staff keeps their knowledge up-to-date.

India has long been accustomed to look to Government to provide hospitals, dispensaries and medical relief, so that it is hardly surprising that the employment of midwives by its local authorities preceded the adoption of this policy in England. Few Indian municipalities, however, could afford to finance a complete scheme from their own resources and it is to be noted that when, in 1936, England made domiciliary midwifery service universal and compulsory, local authorities were authorised to recover fees from those able to pay. Until some such scheme is adopted in India, existing deficiencies will have to be filled by midwives in private practice. Local bodies and voluntary associations which provide a domiciliary midwifery service would be well advised to institute and enforce a scale of fee which, while not being applicable to the genuinely poor, would constitut additional funds for expanding the domiciliary service. There is no rea reason why those able to pay for the services of a midwife should not d so and, in those areas where this system has already been practised, no hardship has been caused and the families concerned have shown them selves willing to pay. The introduction of a scale of fees of this kin removes the unfair method under which a completely free service injure the practice and income of private practitioners and private midwives.

Most of the provinces have apparently been unable to give the number of registered midwives in private practice, but from the figures received it would appear that there are 574 in Bengal, 388 in Bombay and 2,41 in Madras According to a recent survey carried out by the publi health department in Madras, the provision of midwives works out at 0 9 per 1,000 births in municipal and rural areas. These figures may b somewhat misleading, because a midwife may be registered in one pro vince and work in another.

The income of the average midwife in private practice is ofte uncertain , in fact midwifery is frequently a secondary activity onl practised in order to supplement earnings from another source. Fees too, are usually small and the tendency is for the midwife to book mor cases than she can deal with efficiently. Technically, she is at a dis advantage compared to midwives employed by local bodies and voluntar organisations owing to lack of adequate equipment and, moreover, it i difficult for her to make contact with midwifery institutions and clinic whilst under existing conditions there is no supervision of her work.

Post-natal Clinics.

8. Systematic post-natal examination is so far practically unknow in India. The routine medical examination of mothers, for a period o six to eight we[illegible] abnormalitie at an early ar[illegible] in the preven tion of chron[illegible] this activit requires to be stressed not only in the teaching hospitals but in ev[illegible] health visitors' school Moreover every welfare centre, as well as every women's hospital, should hold organised post-natal clinics in the same way as pre-natal clinics and health visitors and midwives should make every effort to induce the mothers to attend.

CHAPTER V.

INFANT AND CHILD WELFARE SERVICES.

Introduction.

1. The review of the vital statistics relating to infantile and child mortality contained in Chapter III shows that 13 per cent. of the total registered deaths occur under the age of 5 years Little is known of the clinical causes of deaths in infancy and childhood and still less about the social and economic causes which influence the death rate Research on these problems is required before effective control measures based on an understanding of the situation can be instituted In a general way, it is known that defective sanitation, bad housing and overcrowding, inadequate milk and food, early marriage, high birth rates, adverse social customs and such like are in large measure responsible for high mortality rates, but there is little doubt that a factor of outstanding importance is the lack of skill and knowledge of mothercraft on the part of the mother herself This being so, the most hopeful method of control lies in educating the mother in the nurture of her children and in the precautions to be taken to secure their healthy development The first line of defence is to provide more universal education for girls and to introduce mothercraft classes into the curriculum of girls' schools , the second to establish maternity and child welfare schemes on lines designed to meet the mothers' need for knowledge of the simple rules of health Maternity and child welfare is essentially an educational service providing advice and instruction for mothers in the care and management of their own health and that of their infants and young children

Number of Welfare Centres

2. The figures for maternity and child welfare centres for 1936 in the different provinces have been compiled from the replies to the questionnaire and are given in Table XIX

TABLE XIX

Number of Centres.

Province or State	Urban or combined urban and rural.	Rural.	Total.
N.-W. F. Province . ..	3	.	
Punjab	70	18	
Delhi . ..	21	10	
U. P.	138	121	
Bihar	17	..	
Orissa	8	5	

Province or State	Urban or combined urban and rural	Rural.	Total.
Bengal	32	.	32
C P.	56	16	72
Bombay	19	34	53
Sind	7	2	9
Madras	88	109	197
Assam	5	..	5
Hyderabad State	4	..	4
Mysore State	36	7	43
Jodhpur State	2	..	2

Table XX shows the different agencies under which the centres ar maintained These have been compiled from the replies sent by ad ministrative officers to the questionnaire but here again the informatic supplied is certainly incomplete It is surprising to note that administr tive officers seem to be unaware of the preventive work actually bein done in the areas for which they are responsible.

Table XX.

Name of Province or State.	Number of Maternity and Child Welfare Centres run by :—																	
	Government and Local Bodies.			Voluntary Organisations (including Missions).			Combined Govt. & Voluntary Organisations.			Combined Local Bodies & Voluntary Organisations			Industrial *Concerns*			Total (Grand).		
	U.	R.	Total.	U.	R.	Total.	U.	R.	Total.	U.	R	Total	U.	R	Total.	U.	R	Total.
N.-W. F. P. ..	1	..	1	1		1	1	..	1							3	..	3
Punjab . ..	19	18	37	13	.	13	..	..	..	34 (combined U & R)		34	4 (N	W	Ry) 4	70	18	88
Delhi . ..	18	4	22		2	2	..	4	4				3		3	21	10	31
U. P	.	..	.	136	121	257	.		.				2		2	138	121	259
Bihar	6	..	.		.		6	..					5		5	17	.	17
Orissa . .	4	5	9	4		4		.								8	5	13
Bengal . ..	1	..	1	.			21	.	21				10		10	32		32
C. P.	7	.	7	48	16	64							1		1	56	16	72
Bombay ..	17	14	31	2	20	22							1	2	3	19	34	53
Sind ..	1	.	1	5		5				(These in some cases give grants)				3	3	7	2	9
Madras . ..	64	94	158	23	12	35							1		1	88	109	197
Assam . ..	.	..	.	5	.	5	.									5		5
Hyderabad State	4	..	4	.		.	..	..		.	.	.				4	.	4
Mysore State ..	13	3	16	..	..	.	15	4	19				8	.	8	36	7	43
Jodhpur State ..	..	..	..	2	.	2	.					.	..	..	..	2	.	2

U stands for urban and R stands for rural.

In the U. P., the 259 centres in existence are divided almost equa between urban and rural areas and are entirely managed by the Indi Red Cross Society. On the other hand, of the 196 centres in Madr 158 are organised under official auspices, and only 35 are run by volunta organisations In the Punjab, the organisation lies midway between th of the U P and that of Madras ; of 88 centres, 37 are under offic management, 13 are under voluntary organisations, 4 are under No Western Railway, whilst 34 are managed by combined official a voluntary organisations Delhi Province is shown as possessing 31 centr but 18 of these are in the cities of Old and New Delhi The Ben figures total 31, including one attached to the All-India Institute Hygiene and Public Health The 71 centres in the Central Provinces distributed between rural and urban areas fairly evenly. With th exceptions, including Bombay which has 53 centres and Mysore which 43, infant and child welfare work has not yet developed beyond experimental stage

Health Visitors.

3 Table XXI gives the total urban and rural births in each provi with the corresponding numbers of centres and certificated hea visitors

Experience has proved that one health visitor cannot deal with m than a population producing 200 to 240 births per annum It is clear t the available organisation is far short of this figure in most provinces.

TABLE XXI

Name of Province or State.	Urban or combined urban and rural				Rural.			
	Births.	Centres	Certificated health visitors	No of births per health visitor.	Births	Centres.	Certificated health visitors	No. of births per health
N.-W. F. P. ..	10,404	3	3	3,468	66,594	..	..	..
Punjab ..	125,443	70	70	1,792	973,703	18	21	46,3
Delhi ..	21,229	21	20	1,061	9,630	10	8	1,2
U P. ..	261,430	138	22	1,883	1,626 159	121	..	..
Bihar ..	30,087	17	13	2,314	1,113,921	..	3	371,3
Orissa ..	5,631	8	..	.	249,066	5	..	..
Bengal ..	84,855	25	9	9 428	1,598 351	.	2	794,1
Central Provinces.	76,962	56	61	1,261	574,306	16	12	47,8
Bombay ..	130,000	19	19	6,842	612,331	34	1	612,3
Sind	26 674	7	4	6,668	52 862	2	1	52,8
Madras ..	149,988	88	58	2,586	1,509,637	109	11	137,2
Assam ..	6,349	5	2	3,174	233,355	..	..	..
Hyderabad State	..	4	3	..	..	..	..	..
Mysore State	30,008	36	1	30,008	106,481	7	5	21,2
Jodhpur State	..	2	1	..	..	..	..	..

It has long been recognised that the trained health visitor holds a key position in a welfare centre organisation In the light of this fact, it is disappointing to find that so many welfare centres in this country still have no trained health visitor on their staffs For instance, although the U P. has 259 centres, only 22 health visitors are employed Child welfare work, in the real sense of the term, cannot be properly carried out by midwives and assistant midwives, such as are in charge of the majority of the U P centres. The fact that the Punjab, with its 88 centres, employs 91 certificated health visitors shows that it is possible to obtain trained women. It is reported that the C P employs a large number of health visitors but that most of their time is given to midwifery practice This is not, however, the primary function of a health visitor In Madras Presidency 73 health visitors are employed mainly by local bodies , 13 are employed by voluntary organisations

Women Doctors

4. Table XXII gives the number of centres in each province and the numbers of women doctors attached

TABLE XXII.

Province or State.	Number of Maternity and Child Welfare Centres.	Number of Medical Women employed on Maternity and Child Welfare Work by— Public Health Department.			Municipal Boards and Local Bodies.			Voluntary Organisations.			Industrial Concerns.			Total.		
		Graduates without a Diploma in M. & C. W. or a D.P.H.	Graduates with a Diploma in M. & C. W. or a D.P.H.	Licentiates.	Graduates without a Diploma in M. & C. W. or a D.P.H.	Graduates with a Diploma in M. & C. W. or a D.P.H.	Licentiates.	Graduates without a Diploma in M. & C. W. or a D.P.H.	Graduates with a Diploma in M. & C. W. or a D.P.H.	Licentiates.	Graduates without a Diploma in M. & C. W. or a D.P.H.	Graduates with a Diploma in M. & C. W. or a D.P.H.	Licentiates.	Graduates without a Diploma in M. & C. W. or a D.P.H.	Graduates with a Diploma in M. & C. W. or a D.P.H.	Licentiates.
N.-W. F. P.	3	..	..	..	2		7	3		3		..	..	5	..	10
Punjab	89	..	..	..	..					..	..		..	..	..	..
Delhi	31	..	..	..	2		1			..	..	..	..	2	..	1
U. P.	259		..	..	4		16			..	..	..	..	4	..	16
Bihar	17	..		..	..					..	..	..	..	..		..
Orissa	13	..	..	..	..		1		1	..	..	..	..	..	1	1
Bengal	32	..	..	..	..		1	..		..	..	..	..	..	..	1
C. P.	72	1	..	..	..				..	..	..	..	..	1	..	..
Bombay ..	53	..	..	..	..	..	..	7	..	..	4	..	..	11	..	..
Sind	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madras	107	..	..	1	2	..	34	..	..	..	..	..	..	2	..	35
Assam	5	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Hyderabad State	4	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Mysore State ..	43	1	..	..	..	..	1	1	..	..	..	..	..	2	..	1
Jodhpur State ..	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1

The number of women doctors engaged in this sphere of work is very small except perhaps in Madras, where 31 licentiates are employed under local bodies. There seems to be great scope for the employment of women doctors with special training in this field of public health work

Early departures from health are not always capable of detection even by a trained health visitor The deductions to be drawn from an obvious departure from health can in most cases only be made by a trained woman doctor It is for these reasons that every welfare centre requires to have a visiting doctor

Functions of Welfare Centres

5 Maternity and child welfare work is essentially of an educational nature The education of the mother begins by individual instruction in the home and this cannot be suitably carried out unless the health visitor pays regular monthly home visits to all expectant mothers and to infants under one year and continues to visit once a quarter the children between the ages of one and five years On the assumption that 200 births per annum occur in a health visitor's area, this means that she must pay 2,400 home visits to infants alone, whilst 6 visits to each expectant mother means another 1,200 per annum. If the health visitor is to make these 3,600 visits, she must do at least 12 per day, assuming there are 300 working days in her year. These calculations take no account of visits to children between the ages of one and five When climatic and other conditions are taken into account, it will be agreed that in addition to running her centre, the health visitor has a heavy task if she tries to work to this standard

The health visitor's task is to deal with the general development of the child, the management of breast feeding, clothing, bathing, teething, vaccination, weaning, the diet of the nursing mother, habit training, prevention of colds and minor dietetic and other disorders The mother has to be persuaded to change century-old customs and habits She has to be instructed in the hygiene of the home and its environment, in family budgeting and in a host of other matters regarding which the health visitor will be consulted once she becomes the tried counsellor of the family The same lesson has to be repeated again and again before new methods are accepted and practised

Mention has already been made of the fact that most of the existing welfare centres are staffed only by nurses or midwives instead of by trained health visitors Whilst the training of a nurse fits her for nursing under *the general direction of a doctor* her hospital experience gives her little contact with degrees of health Much less is she trained in respect of the advice to be given to the mothers and babies attending a welfare centre Only too frequently, resort is had to the charitable distribution of milk and clothing or, worse still, to the dispensary habit of doling out medicines It is these practices which have handicapped so severely the development of real welfare work in this country
until fully trained health visitors
the centres are guided and controll
preventive outlook

Whilst the importance of home visiting cannot be over-emphasized, it must be stated that the welfare centre is an equally valuable adjunct to sound maternity and child welfare work The welfare centre itself makes

for the economical use of the doctor's services and gives opportunities to the mother to consult the health visitor between the routine home visits. Here also can be carried out weighing tests and the more detailed examinations which are not possible in the home In addition, individual instruction begun in the home can be consolidated by more formal group teaching and demonstrations, whilst the doctor is able to confirm the health visitor's advice and ensure that it is acted on.

In this country, since medical treatment is not always readily available and the absence of facilities for treatment is a great handicap to welfare work, the treatment of minor ailments in the centre is legitimate. Great care, however, must be taken lest the welfare work, which is primarily preventive in nature, develops mainly a curative character. The centre which usurps the function of the hospital or dispensary does so to the detriment of its own more fundamental work of promoting racial health and preventing disease, but also puts back the time when adequate medical facilities will be instituted Every emphasis should always be placed on teaching the mother how to carry out the treatment at home, otherwise the centre quickly becomes converted into a dispensary and its value as a preventive institution is entirely lost Inadequate facilities for the treatment of disease is a handicap to her
is to take place, facilities for the relief
This means for India a wide extensi
medical officers

*" It is a regrettable fact that in the past hospitals and welfare centres have not co-operated in the most fruitful way for the benefit of the women and children of the country. Each has
the persons concerned for whom both
fullest co-operation between the two.
but they are complementary and neither can do without the help of the other. The misunderstanding on the part of the public as to what welfare centres exist for is partly at least due to wrong methods of working. Where the right ones are tried, the public generally realises the work which the hospital and the welfare centre performs and where the one carries out what the other does not attempt".

Voluntary Workers.

6. Good voluntary workers are always a valuable asset to a welfare centre For instance, the clerical work involved in filling up and indexing cards takes up valuable time if it has to be done by the health visitor and relief, in this direction alone, leaves her more free to attend to the technical duties for which she has been trained In addition to work in the centres, voluntary workers are frequently able to enlist the sympathy of local residents and members of local bodies and thus ensure the collection and allotment of funds necessary for success They should also be of value in home visiting and in carrying out propaganda work amongst women. But, in order to play a really useful part, the voluntary worker must in the first place be prepared to give time and energy to the work and make herself thoroughly familiar with its aims and objects Enthusiasm must always be accompanied by knowledge if the voluntary worker is to be of any real

*Handbook for Health Visitors—Young.

assistance. Classes for voluntary workers might be conducted either in connection with health schools or planned by other organisations engaged in voluntary work.

Care of the child from 1—5 years

7. The number of nursery schools taken from the replies to the questionnaire total 35 This figure, like others already quoted, must be accepted only with considerable reserve

The years one to five are critical years in the child's development Not only is physical health liable to be undermined by an inadequate diet, by insufficiency of sleep, by exposure to infectious diseases and by unsatisfactory environmental conditions but the child's mental emotional and social development may be retarded by lack of the necessary stimuli or by parental ignorance

Both physical health, and, to some extent, development of character can be influenced through the maternity and child welfare services In well-organised schemes, the health visitor should pay quarterly visits to the homes of all pre-school children in her area and the children can also attend the consultation clinics at the welfare centre In most instances, however, the health visitor is fully occupied with work amongst expectant mothers and infants and the child between one and five years is neglected.

Nursery Schools.

8. In such circumstances, the nursery school offers a method of providing for the healthy physical and mental development of the child In his report on the Health of the School Child, 1936, Sir G Newman says . —

"The purpose of the nursery school has long been recognised by intelligent observers who are concerned in the nurture and education of the children of the nation. The nursery school should seek to remedy the defects often inherent in the conditions of home life It is a species of Montessori or McMillan School with health as its objective. The physical care of these children comprises much more than mere physical exercise, important as that is It involves provision for free movement, in sunlight, when possible, in fresh air always, out of-doors or indoors , regular periods for sleep and rest in the horizontal position ; training in all desirable bodily habits, particularly personal cleanliness ; and arrangements for meals, including suitable food at regular times The games, handwork and physical exercises undertaken should be to a large extent free and unhampered, though not aimless The children should be trained to play together as well as to play alone, to breathe properly, to use their limbs freely with increasing control, to move quietly when necessary Walking, hopping, skipping, marching, running and arm exercises are particularly valuable Fullest advantage should be taken of life in the open air and all those activities for

little gardens, the care of birds
in nature, as well as natural
on should be maintained with
ge numbers of little children of
of medical officers, nurses and
and ready to take prompt pre-

ventive measures against infection. The school should also provide definite training of the opening mind of the child, seek to establish well formed habits, cultivate alertness and eagerness, and provide for suitable training of the motor and sensory faculties of the child (including handwork) Much may be done also in sense-training ; as regards sight to teach the child to notice broad rather than fine differences in colour, form and size , as regards hearing, to listen with attention, to respond to quiet questions and commence to distinguish different sounds and to develop a taste for pleasant sounds instead of noise ; in touch, to enable the child to interpret shape, size and texture through his fingers and to use his hands and fingers for manipulation, such

With the possible exception of the last group, none can be regarded as satisfactory. Daily care by an outsider in return for payment has this advantage over a creche that the risk of infection may be reduced and, where the attendant is conscientious and kindly, the child benefits from a greater measure of mothering. Conditions in industrial areas are, however, seldom ideal and careful supervision of these boarded out children by a health visitor is desirable. The employment of female labour being a well-established practice in many industrial concerns, a number of enlightened employers have recognised the value of providing creches for the children of their women labourers. Since however no legal obligation in the matter yet exists in this country except in Bombay Presidency, many mills and factories have made no such provision and the time seems ripe for this being made compulsory. It may be noted that under the rules framed by the Government of Bombay, mills employing more than 100 women must have suitable accommodation for the use of children below the age of six years.

A creche is intended to take charge of children from early infancy to 5 years. For the younger infants, attention to cleanliness, comfort, feeding, safety and freedom from infection are the main requirements, but even these require considerable knowledge and skill. The routine work may be entrusted to an untrained ayah, but the direction and supervision of the subordinate staff should be in the hands of an experienced and qualified woman who in turn will work under the general direction of a medical officer. Very few of the existing creches are organised in this way partly no doubt because of financial considerations but also partly to lack of suitably trained workers. The arrangements for the older children up to 5 years should be similar to those of a nursery school.

Institutions for orphans and illegitimate children, etc

10. The replies to the part of the questionnaire dealing with this aspect of child welfare are conspicuous by their absence. The matter is of some importance, because, whilst definite statistics of the mortality amongst infants and children in institutions or with foster parents are not available, the mortality rate is known to be excessive in one or two of these institutions. The children admitted are very often handicapped from the start by bad heredity and by the physical hardships through which they have passed before admission and only the best medical and nursing skill and mothering can help them to recover health of body and mind.

Whilst many of these institutions are managed and financed by voluntary committees and the arrangements for cleanliness and comfort of the children are above reproach, others lack even the minimum sanitary requirements and possess neither the amenities nor the companionship necessary for the healthy development of the child. Before the responsibility of Government with regard to these institutions can be advantageously discussed or recommendations made for their supervision, much more information concerning conditions obtaining in them is required. This is a matter which should not be lost sight of by the Governments of this country. In any case, the control of these institutions is a question in which both medical and public health departments are closely concerned.

The essential characteristics of an efficient nursery school are set out in a pamphlet entitled "Variations within the Nursery School Movement" published by the Nursery School Association of Great Britain.

Crêches

9. Another method of catering for the supervision of infants and young children is the crêche or day nursery. According to the replies given to the questionnaire, 97 crêches are known to the medical and public health departments, but this figure is clearly an under-statement. Recent information in regard to Bombay Presidency shows that there are 31 crêches in mills in Bombay city and 61 in mills in Ahmedabad. In other provinces the provision of crêches has not advanced so far, but at least five are known to exist in Bengal and others are to be found in Nagpur, Bangalore and Madras

The greater provision in Bombay Presidency is accounted for in large measure by the appointment by the provincial Government in 1922 of a woman doctor for the purpose of investigating the conditions of women industrial workers in the Presidency Her enquiry showed "that about 98 per cent of the infants born to industrial women workers had opium administered to them in some form or other and that this was responsible for much of the atrophy group of diseases met with amongst infants", whilst in that year there were only four crêches in Bombay city and a few in Sholapur and Ahmedabad

Shortly after the completion of this investigation, the Government of Bombay appointed a Woman Inspector of Factories to deal especially with the problems affecting women and children. Although the number of crêches has increased considerably since, the numbers are still far short of requirements Where a crêche is not available, infants and children of the working mothers are left in the charge of old or decrepit relatives or of the elder children of the family, the arrangement in neither case being satisfactory.

The following figures were collected by the manager of one of the jute mills in Bengal *after* the passing of legislation prohibiting infants from accompanying their mothers to work They indicate the new arrangements made for the care of 120 children of working mothers.

In charge of an outsider on payment of 0-4-0 weekly ..	15
Unattended and playing outside .. .	15
In charge of a small brother or sister . ..	49
In charge of aged relatives	29
In charge of other relatives	12
	120

With the possible exception of the last group, none can be regarded as satisfactory Daily care by an outsider in return for payment has this advantage over a creche that the risk of infection may be reduced and, where the attendant is conscientious and kindly, the child benefits from a greater measure of mothering Conditions in industrial areas are, however, seldom ideal and careful supervision of these boarded out children by a health visitor is desirable The employment of female labour being a well-established practice in many industrial concerns a number of enlightened employers have recognised the value of providing creches for the children of their women labourers Since, however no legal obligation in the matter yet exists in this country except in Bombay Presidency, many mills and factories have made no such provision and the time seems ripe for this being made compulsory It may be noted that under the rules framed by the Government of Bombay, mills employing more than 100 women must have suitable accommodation for the use of children below the age of six years.

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Institutions for orphans and illegitimate children, etc

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CHAPTER VI.

TRAINING OF STAFF

Medical Women, Health Visitors, Midwives and Dais.

Introduction.

1 It was fortunate that the promoters of the maternity and child welfare movement realised at an early stage the importance of properly trained staffs for welfare schemes The establishment of the first training course for health visitors (1918) actually preceded the formation of the Lady Chelmsford League Fund for Maternity and Child Welfare (1920). The medical woman, the health visitor and the trained midwife must all be available if the maximum benefit is to be derived from the centres In other spheres, it is well recognised that no degree of skill and knowledge in the actual worker can compensate for defective planning and administration In the sphere of maternity and child welfare, however, this seems to have escaped notice and the services of the health visitor have been only too frequently rendered more or less ineffective by misdirection under un-informed enthusiasm Special post-graduate training has long been considered necessary for the medical officer of health and, in the same way, if the maternity and child welfare services are to be properly organised and integrated into health departments special training for the medical officers in charge is essential.

Medical Women.

2 A course designed to fit medical women for administrative and executive posts in maternity and child welfare schemes was instituted in 1933 at the All-India Institute of Hygiene and Public Health, Calcutta, but unfortunately so far only a few women have availed themselves of these facilities As the greatest urgency is to obtain trained medical women for the higher administrative posts in large cities, districts and provinces the course has been limited to graduates A further cogent reason for limiting the course to graduates is uncertainty as to the future of the licentiate medical schools

On the other hand, sub-assistant surgeons are employed by Governments and voluntary committees and in army child welfare work, whilst others are attached to dispensaries and small hospitals where they may be required to undertake duties in connection with welfare centres and domiciliary midwifery. In Madras, the medical women employed under local bodies' schemes are given a short post-graduate course in maternity and child welfare. Some knowledge of public health practice would be of great service to medical women and the question of arranging adequate courses for those already appointed is one of some importance

Public Health appointments under local bodies open to medical women are so far uncommon (see Table XXII) and the salaries of those in existence compare unfavourably with the income of medical women in practice or in hospital posts The conditions of service and the qualifications necessary for medical women taking up maternity and child welfare work all require careful consideration and emoluments should include some compensation for loss of private practice.

There can be no doubt that, if maternity and child welfare work is to be properly organised, the first requirement is to have a woman of the status of Assistant Director of Public Health in each province and this appointment should be open only to those who possess either a public health qualification or preferably a diploma in maternity and child welfare and have had considerable experience in that branch of public health work. For any ambitious municipal and local body schemes a woman doctor's services are essential and she also should have had special training, if she is to be able to develop the scheme under her charge on suitable lines and to advise and instruct her health visitors and midwives

Health Schools and the Training of Health Visitors

3 There are seven health schools in India, their opening dates being Delhi, 1918 , Lahore and Madras, 1922 , Nagpur, 1928 , Poona, 1932 ; Bombay, 1935 ; and Calcutta, 1937. Health Schools were formerly in existence in Bengal and in the U. P., but were closed owing to financial and other difficulties The schools in the Punjab, in the Central Provinces and in Madras are Government institutions ; the others are maintained by voluntary organisations and all except Bombay receive Government grants-in-aid amounting to 20—30 per cent of the total expenditure. The Madras School was maintained by the Provincial Branch of the Red Cross Society until March, 1938, and was re-opened by Government in August 1938. In Mysore State, a modified training course for health workers has been established at the Closepet Rural Health Unit

That a matter so vital to the development of the maternity and child welfare movement as the training of health visitors should have remained so long in the hands of voluntary bodies may be taken as a testimony to the enthusiasm and determination of a number of far-seeing individuals, but, although this policy may still be expedient, conditions are changing fairly rapidly and no Government can afford indefinitely to shelve its responsibility in this sphere of preventive medicine, even although voluntary organisations are willing to continue to carry part of the burden On the other hand, voluntary committees, whilst realising the influence they can continue to exert on the development of maternity and child welfare work, are now inclined to believe that the experimental stage is past and that the time has come for them to deflect their resources in other directions. This trend will probably be accelerated by the new Nursing Registration Acts which provide for the better training and control of health visitors.

4. *Qualifications for admission* —Qualifications for admission have up to the present been similar in the Bengal, Bombay Delhi, Madras and Punjab schools The students must be not less than 21 years of age have read up to matriculation standard, have a good knowledge of English and possess a recognised midwifery certificate In the Nagpur and Poona schools, a lower standard is accepted Provincial Nursing Councils are now engaged in drawing up regulations in respect of the training of health visitors and the general tendency is to require the same standard of general education for health visitors as for midwives This is a lower standard than matriculation, which is now required, and is therefore a retrograde step Selection of candidates will have to be exercised with care if the former standards of educational qualifications are to be maintained

A criticism often levelled at existing courses of instruction for health visitors in India is the lack of training in general nursing In the first

instance, general nursing experience was not laid down as essential because the girls who wished to become health visitors would not face the long and strenuous training required before they could obtain the nurse's qualification

5 *Qualifications of Superintendent*—In five of the seven health schools, the Superintendent is an experienced and qualified health visitor, with experience of maternity and child welfare work in other countries In Bombay and Nagpur, the Superintendent is a medical woman graduate Medical women have been appointed as Superintendents presumably because health visitors were not available, but this cannot be regarded as an ideal arrangement. The ordinary day-to-day routine of a health visitor's work in the centre and in home visiting is better taught by a health visitor than by a doctor, just as routine bedside nursing is better taught by members of the nursing profession The medical outlook is supplied by the lecturers most of whom are women doctors , tutorial work should be done by a health visitor The Superintendent of the Nagpur School, in addition to her school duties, acts as provincial organiser of maternity and child welfare schemes and in this capacity is frequently absent from the school. This arrangement is entirely unsatisfactory , in such circumstances neither duty can be adequately performed

6 *Diplomas.*—The diplomas of the Lahore, Madras and Nagpur health schools are now recognised by their provincial Governments and are issued by the official Public Health Departments The diploma of the Lady Reading Health School, Delhi, has similarly been recognised by the Central Government and is now signed by the Public Health Commissioner to the Government of India, who is *ex-officio* Chairman of the School Committee The certificate of the Bombay Health School is issued and recognised by the Bombay Nursing Council established under the Nurses Registration Act and Bengal will also probably adopt the same policy ; that of Madras and the Punjab are recognised but not issued by the respective Nursing Councils. The certificate issued by the Poona School and granted by the Seva Sadan Society was un-official. In the Central Provinces and Madras, additional and superfluous diplomas have been given by the Indian Red Cross Society.

In the near future, the inspection of health schools, the regulation of examinations and the issue of certificates is likely to become a function of the Nursing Councils, but it may be necessary to form some central body whose duty it will be to maintain approximately uniform standards and to facilitate the reciprocal recognition of certificates The former function is undertaken at present, as far as may be, by the Maternity and Child Welfare Bureau, Indian Red Cross Society. Some control is exercised through grants-in-aid or, as in the case of the Punjab, by the fact that the Director of the Bureau has been external examiner for the Maternity and Child Welfare diploma for many years In this connection, it is interesting to note that, in England the medical officers of the Ministry of Health inspect the training schools and attend from time to time the examinations conducted by the Royal Sanitary Institute. The certificate issued by the Royal Sanitary Institute is endorsed by the Minister of Health and grants are paid to the training institutions by the Ministry.

7. *Medium of instruction.*—The medium of instruction is English at all the health schools except Nagpur and Poona, although tutorial instruction is given in the vernacular of the Punjab In certain parts of India, the demand for vernacular training for health visitors has increased rapidly in recent years and because the serious difficulties of acquiring knowledge through a foreign language are generally admitted, there is much to be said for the institution of vernacular courses

At the same time careful consideration must be given to the motives behind the demand It seems probable that the real reason is financial, not educational, and that the demand is not for a high grade vernacular training but for the training of an inferior worker who will command a lower salary The institution of two grades of certificate is not in conformity with present trends which aim at abolishing the lower grade training for doctors, midwives and nurses and this course is therefore not to be lightly undertaken. The replies to the questionnaire were almost unanimously opposed to the institution of two grades

Existing scales of salaries are no doubt relatively high and beyond the means of many local authorities, but this is largely due to the difficulty of obtaining trained women and, so long as supply falls short of demand, the position will not change The low status of the nursing and midwifery professions in India is without doubt largely responsible for the continued shortage of suitable candidates for admission to health schools. The more intelligent and ambitious women students enter the teaching and medical professions, because in both, social status and financial rewards are of a much higher order With the spread of education and with the growing tendency of individual communities to fill teachers' posts with girls belonging to their own community, it seems possible that greater numbers will be compelled to adopt the nursing and midwifery professions. It may be, therefore, that the present demand for a second and lower grade of worker is transitory

A second argument put forward in favour of vernacular courses is that girls of good education will not work in rural areas where the problems are more urgent, whilst the general lack of social amenities and of adequate housing in the villages certainly makes rural work less attractive Others hold that these obstacles are not insuperable and can be overcome by the careful selection of pupil health visitors suited to village work The succeeding paragraph summarises the general trend of opinion as stated in the replies to the questionnaire

If the health visitor is fitted by temperament, upbringing and character for rural work, a high standard of general education is an asset rather than a handicap The health visitor's post is a responsible one, she has to make contact with all classes of people from the illiterate labourer's wife to the well educated members of her committee and she must carry weight with them all if anything is to be accomplished. It is only on the basis of a sound education that the intensive, special training of the health visitor can be effective and that she will remain sufficiently convinced of the value of her work to maintain her conviction in the face of opposition prejudice and indifference She needs initiative and ability to adapt her knowledge to varying conditions and people and the rural worker needs these qualifications even more than the urban

worker. Her responsibilities are greater because she works alone and will regularly be faced with situations which never arise in the towns where better developed health and medical services are in existence She needs character and conviction in greater degree because misunderstanding and misrepresentation have to be met without the stimulation and support afforded by contact with other workers. A poorly educated worker is, therefore, at a much greater disadvantage in a village than in a town

The practical difficulties which have to be faced in instituting vernacular courses are as follows In most provinces, there is more than one main vernacular, properly qualified lecturers in the vernaculars are difficult to secure and the medical officer of health may be an Indian from another province Moreover, suitable text books in the different vernaculars do not as yet exist, nor do journals or other literature, so that the health visitor is unable to keep her knowledge up to date after graduation without using English Refresher courses and regular supervision would obviate this difficulty in part, but these are seldom arranged. Record keeping presents another difficulty, as the inspecting officer, whether Indian or English, may be unable to read the local vernacular records

Until provinces are in a position to overcome these obstacles and to provide adequate supervision for the worker it would seem the better policy to continue the training on the present standard Eventually, it might be best for each province to maintain its own vernacular health schools and for a central All-India school to be instituted which would accept pupils from all over India for an English course, designed to give a more intensive and advanced training to those women who aspire to supervisory and teaching posts At present, experienced health visitors required for key posts, particularly in teaching posts, have to be recruited from abroad or suitable Indian candidates are sent abroad for advanced training, arrangements which are obviously expensive and are in other ways undesirable.

The advent of vernacular schools has been brought nearer by the decision of various Nursing Councils to require the same standard of general education for nurses, midwives and health visitors The standard is generally below that of matriculation and too low to enable the pupil to follow an English course This is an additional reason for hesitating over the institution of courses for a temporary inferior grade of worker.

8 *Syllabus of course*.—The syllabuses of instruction in use in the different schools are fairly uniform and, since they have stood the test of time, little comment is necessary A recent tendency, however, is to widen the field of the health visitor's work and to bring under her care the school child and families infected with tuberculosis or venereal diseases In these spheres, some experience of general nursing would be a great asset and sooner or later it will be necessary to consider the question of modifying the curriculum in such a way as to include experience of general nursing.

At the same time, a health visitor's work is largely educational and social and, whilst nursing experience would undoubtedly be an asset, four years spent in acquiring technical skill, which the health visitor will have little occasion to apply, would unduly prolong the course and unnecessarily increase the cost To meet these difficulties Dr. Ruth Young,

when Director of the Bureau, drew up a scheme for a four years' training course for health visitors* She has proposed that the first two years of this course should be devoted to the basic sciences including biology, chemistry, physiology, anatomy, dietetics, together with periods of general nursing experience arranged by affiliation with hospitals, the third year's course should include training in midwifery and in pre-natal and post-natal care, and the fourth year would correspond more or less with the present syllabus of the health schools Such a course would have the advantage of overcoming the present gap between leaving school and admission to a health school This gap of four years is one of the great handicaps to recruitment of health visitors, because most of the suitable girls have adopted other professions before they reach the age of 21 This ideal might therefore, be kept in mind and even made the subject of experiment, but the present state of development of the nursing and maternity and child welfare services hardly justifies a venture of the kind at the moment.

9. *Practical training*—Every health school except that in Poona has now attached to it a welfare centre The work of these centres is carried out by one or two trained health visitors who work under the direction of the health school superintendent and who assist in the day-to-day practical training of the students in home visiting and in management of the centre.

A period of residence and practical training in a rural village should be made a definite part of the curriculum in all health schools and those schools which have not yet organised this work should do so without delay. A further increase of the period of 2-3 weeks devoted to rural maternity and child welfare work would go far to remove the demand for special schools for rural workers The development of rural ' health units ', such as are now to be found in the United Provinces, Madras and Delhi, affords admirable opportunity for the essential practical field training of pupil health visitors and may be expected, also, to provide additional recruits from the ranks of the midwives employed in those units

10 *Refresher courses*—Refresher courses are held at the Lahore health school, but so far no other school has arranged this valuable and important part of its work. The value of the refresher course lies not only in the opportunities it affords of acquiring information on new developments and new methods, but also in the mental stimulus provided by discussion and exchange of ideas The attention of all health school committees should be drawn to the necessity for holding at least one course each year This should not lay any undue burden on the staff

The health visitors employed by Government local bodies or voluntary organisations who attend a refresher course, should be regarded as on duty and travelling allowance should be granted.

11 *Number of students*—Table XXIII gives details of the numbers of health visitors trained annually and the approximate numbers trained up-to-date At the moment the facilities for training can almost cope with the demands for trained women but if rapid developments take place in the maternity and child welfare field, additional accommodation in health schools will have to be provided.

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*The Training of Health Visitors in India, by Dr Ruth Young, M.B.E, W.M.S

TABLE XXIII.

—	No. of schools	No. of pupils trained annually.	No. already trained and certificated. English.	Vernacular.
Delhi	1	12	188	1
Punjab	1	10—13	112	5
C. P . .	1	8—10	77	.
Madras	1	8	36*	..
Bengal .. .	1	8	..	
Bombay . .	1	5—8	9	..
Poona	1	12	33	.
U P.	.	..	..	..
Total .	7	58—63	455	9

*(since 1932).

Training of Midwives.

12 Perhaps no part of the problem of maternity and child welfare is of greater importance than the methods to be adopted in this country for the training of midwives. In Table XXIV an attempt has been made to present the information supplied in response to the questionnaire, but it is again a matter for regret that none has been given except by one or two of the provinces

TABLE XXIV

Number of Institutions training midwives

Name of Province or State.	No. of Training Institutions: Senior Certificate	No. of Training Institutions: Junior Certificate	No. of Maternity Cases: Class A Hospital.	No. of Maternity Cases: Class B Hospital	No. of pupils per annum: Senior	No. of pupils per annum: Junior.
North-West Frontier Province	3	3	Not available.		31	11 in 2 years
Punjab .	12	5	3,539 2	6,931	43 3	69 6
Delhi .	3	1	3,438	976	26	2
United Provinces	6	27	2,768	4,303	Not available	25
Bihar ..	2	45	1,405	1,020	Not available.	..
Orissa ..	1	4	200	169	3	121
Bengal ..	2	9	12,731		Not available	..
Central Provinces	6	24	307	473	31	67
Bombay .	27	.	20,000		150	..
Sind	1	..	1,400	..	10	..
Madras	30		16,257		265	
Assam	..	2	..	45	..	10
Hyderabad State ..	1	..	2,697	2,697	13	27
Mysore State ..	4	..	6,850	..	50	..
Jodhpur State ..	1	..	..	.	..	..

Information subsequently received from Madras states that there are seven institutions for the training of higher grade midwives in English, 39 for vernacular courses for midwives and 35 for the training of *dais*. Twenty-seven of these are mission hospitals. Nor can the figures for numbers of maternity cases available for instructional purposes be taken at their face value, because some of the institutions included are also used for the training of medical students who have the first claim on that clinical material For instance it is reported that the Central Provinces has 6 hospitals admitting 307 cases and that these train 31 pupils for the senior midwifery certificate In other words the average number of cases per hospital is 50 and the average per midwife 10 For the junior certificate, there are 24 recognised hospitals, 473 cases and 67 pupils, giving on an average about 20 cases per hospital and 7 cases per pupil. Even if this supply of clinical material is increased by extern practice, the position is anything but satisfactory. The Orissa figure of 169 cases for 121 junior pupils is worse. Any hospital admitting less than 100 cases per annum cannot be regarded suitable as a training school and even this figure is far below accepted standards. The 1929 report of the Departmental Committee on the Training and Employment of Midwives, England and Wales, states that "we hesitate to specify what might reasonably be regarded for practical purposes as an institution sufficiently large for training midwives But if it be defined as one with at least twenty maternity beds together with an adequate number of deliveries in an attached extern district, this might perhaps, be accepted as a guide for the future" Such a hospital could conduct about 500 deliveries per annum Few hospitals in India approach this standard It should also be kept in mind that, although classes limited to one or two midwives may afford good opportunities for individual instruction, under such circumstances the pupils lack the stimulation of personal contacts and exchange of ideas. Moreover, these small classes are uneconomical both as regards teaching staff and equipment

Inspection and recognition of schools for midwives and regulation of the training courses will in future be vested in the Nursing Councils established under the Nurses Midwives and Health Visitors Registration Acts These Councils are still of too recent origin to be functioning properly, so that the standards of staffing equipment and accommodation which will warrant the recognition of a hospital as a training school have yet to be laid down although a few of the Councils, notably Bombay, Madras the Punjab and Bengal, already have provincial standards The task of the Councils will be no easy one and will no doubt be made the subject of review at an early date but it is greatly to be hoped that the standards adopted in the different provinces will be of such uniformity that it will be possible to obtain reciprocity in the registration of midwives under the different Acts. In this connection the recommendation of the 1929 English Departmental Committee on the Training and Employment of Midwives is interesting. The recommendation states "that existing arrangements for the approval and inspection of training institutions and teachers by the Central Midwives Board are unsatisfactory by reason of their extremely limited scope and that the whole of this work should be placed in the hands of the Minister of Health, on whose behalf the majority of institutions recognised as training schools by the Board are at present inspected by officers of his Department, either in connection with grants

in-aid of midwifery services or the training of midwives, as part of the routine inspection of poor law institutions."

If uniformity of standards throughout India is to be attained, the establishment of a central authority for that purpose would seem to be essential The manner in which such a central authority could be established is a matter which does not come within the scope of this report. The questionnaire did not ask for information or opinions in respect of the selection and training of pupil midwives It was considered that no useful review of the position could be made until the Nursing Councils were in a position to provide the necessary data.

13. *Number of pupil midwives to be trained annually*—In 1929, the population of Denmark was 3,518,000, total births numbered 65,297 and the birth rate was 18 6 During the same year, 1,063 midwives were in practice and, in order to maintain the supply while preventing over-crowding of the profession, 24 pupil midwives were admitted annually for training. To provide one midwife for every 100 births in India, approximately 90,000 would be required and, in order to maintain the necessary number, about 2,000 pupils should be trained every year. The occupational tables *in the 1931 Census Report give the figure of 85,909 for women employed* as midwives, nurses, compounders, vaccinators and masseuses, but only a fraction of this total are midwives Table XXV which has been compiled from replies to the questionnaire gives the numbers of midwives reported to be practising in eight provinces as only 6,193 No information was made available from the provinces which are omitted It is admitted that the totals in the Table are understatements and that no estimate of the error can be made, but even so it is fairly obvious that there is a great shortage of trained midwives in this country and that great efforts will be required before the supply will be adequate.

One method of obtaining a larger number of candidates for training might be the award of stipends to midwifery pupils, as few Indian girls are prepared or are able to bear the cost involved These stipends might be given both by official and voluntary organisations Stipends are already provided in Madras Presidency by the Government for higher grades, by the Corporation of Madras and other local bodies for vernacular grades and by the Red Cross and Dufferin Fund for both grades The shortage of midwives for the maternity and child welfare services also led the Director of Public Health *to request the authorities concerned to increase* the number of training institutions for midwives with the result that the schools increased from four in 1931 to 44 in 1937.

Another point which arises from the present dearth of trained women is the necessity for training the hereditary or indigenous *dai* The role of the *dai* is dealt with in a later section of the report.

Table XXV.

Number of practising midwives
(including junior midwives and nurse dais, but omitting trained dais).

Province	Registered	Un-registered.	Total.	Trained *dais*
Punjab	879	..	879	948
Delhi	4	..	4	.
Orissa	..	17	17	1
Bengal	811	-	811	..
Bombay	1,013	..	1,013	.
C. P.	..	471	471	358
Madras	3,018	..	3,018	7
Assam	..	7	7	14
Total British India .	5,725	495	6,220	1,328
Mysore State	..	321		

14. The question whether domiciliary experience was included in the training course for midwives was answered in the negative by the Punjab, Delhi, Bengal, Bombay and Sind and in the affirmative by the N.-W. F. P., C. P., Madras and Assam. Madras is the only *major* province which answers with an unqualified affirmative, but no details of the arrangements have been supplied In the U P, assistant midwives trained under the Indian Red Cross Society auspices are given mainly domiciliary training and only a limited amount of hospital work In Bihar and Orissa, domiciliary experience "is not specifically mentioned in the syllabus of training," but is given in some districts where the intern clinical material is inadequate.

Domiciliary experience affords one method of remedying a shortage of clinical material, but it has an even greater value as a means of inculcating self-reliance in the pupils and in teaching them how to adapt hospital methods to domiciliary practice while they are under the strict supervision of a trained and competent midwife Extern practice, however, demands additional staff both for teaching and for supervision and many existing schemes fall short in this respect Financial considerations are usually a greater stumbling block to the inauguration of domiciliary training than the social conditions which are frequently offered as an excuse for failure to introduce the system

15 *Refresher courses*—Madras and Assam are the only two provinces which so far have provided for refresher courses. Bengal, replying in the negative, adds that refresher courses "are not required under any rules at present." There can be no doubt of the desirability of holding annual refresher courses for midwives,—especially for those working in rural areas Where a scheme for the training of pupil midwives is in of the *dai* is dealt with in a later section of the report

16 *Examining Body.*—The conduct of examinations and the issue of certificates is now carried out by Nursing Councils, State Medical Faculties, United Mission Boards, Medical Examination Boards, Special Boards of Examiners appointed by provincial Governments or municipalities and by civil surgeons Private organisations and institutions frequently issue their own certificates In some provinces, two examination boards are in existence, the United Mission Board and the official Examination Board. The Bengal Registration Act goes some way towards controlling the issue of irregular certificates by prohibiting the employment of unregistered midwives in any institution wholly or partially supported by public funds, but private practice and employment by voluntary organisations and individuals are still open to the unregistered, who under present circumstances suffer little disability

It is more than desirable that the examinations for nurses, midwives and health visitors should be conducted by the provincial Nursing Councils This will facilitate uniformity of standards and reciprocity between the different provinces.

17 *Nomenclature*—Much confusion is caused by the variations in nomenclature used for the different grades of midwives in different provinces Various factors have combined in the past to produce higher and lower grades in both the medical and nursing professions, but the general tendency now is to eliminate the latter In the field of midwifery, the ideal to be aimed at is undoubtedly one recognised standard for training schools and one midwifery diploma whether the medium of instruction be English or a vernacular In view of the shortage of training facilities and of suitably educated candidates, abolition of the different grades of midwife may not at present be possible, but something should be done to clarify the position as much as possible by adopting a uniform and distinctive nomenclature for each grade *e g*, " midwife " and " assistant midwife ". The title '*dai*' should not be used to describe a woman who has had an officially recognised training course in midwifery

The term " midwife " has a fairly general application and has been used to describe a woman who has undergone " a training of 12 months' duration (6 months for trained nurses) including the personal delivery of 20 patients and the obstetric nursing of 20 to 50 patients " The course of training has recently been lengthened to 18 months in one or two provinces

For the assistant, junior or vernacular midwife's certificate, whilst a lower educational qualification is accepted from candidates, the course is similar, but is conducted in institutions where the standard of training and facilities for practical work are too low to warrant their recognition as schools for midwives Many hospitals train both grades concurrently, the juniors doing menial work and gaining experience by watching and assisting. This is a system which is to be deprecated

The term " nurse-*dai* " is used only in the Punjab and denotes a " trained *dai* who has passed an examination in nursing " The educational standard of the candidates is generally low and, although the training lasts two years and is usually given in a hospital, the pupil only gets a mere smattering of nursing. In so far as the term suggests that the woman is a qualified nurse and midwife, it is a complete misnomer and

stubborn and more amenable to discipline. New methods of training, particularly in respect of increased emphasis on pre-natal or postnatal care, are essential. The principle of ' hands off ' in the intranatal period cannot be overstressed

The vital importance of supervision of the *dais'* practice and methods is also brought out unmistakably in the replies The advantages of pre-natal clinics, managed by a travelling woman doctor or a health visitor, have already been pointed out and the visits of these trained workers might be conveniently combined with supervision of the *dais'* day-to-day activities

19 *Facilities for training*—The majority of *dais'* training classes are held in connection with welfare centres and instruction is given by the health visitors working there Table XXVI summarises the position.

TABLE XXVI

Training facilities for dais.

— —	Dais Training School	Welfare Centre Classes.	Hospital training	No trained annually.
N-W F P.	2	1	..	31
Punjab . .	..	89	3	459 6
U P	..	42	15	200 (approx)
Bihar ..	..	6	29	46 centre 47·6 at hospital
Orissa . ..	..	4	4	34
C P .	..	71	1	500
Bombay . .	..	6	8	268
Sind	2	1	2	10 at one school
Assam . . .	4	5	1	87

The chief advantage of utilising the welfare centre is that the *dais* [illegible]

to the centre, this difficulty is largely obviated, but the number of fully staffed welfare centres at the moment is insignificant Under the rules for the Victoria Memorial Scholarships certificate, at least 20 deliveries conducted by the *dai* must be personally witnessed by the health visitor. Under the Punjab Central Midwives Board rules the number is only 10, much too small a number From her very upbringing and outlook, theoretical instruction is of little value to the *dai* and the only way is to give her sufficient practice in better methods so as to make these more or less automatic Unless the new methods become second nature by repetition, they are likely to be forgotten as soon as the first emergency arises

It is obvious that the number of *dais* which the health visitor can teach and prepare for examination is strictly limited A midwife working full-time cannot properly conduct more than 100 deliveries per annum, that is,

a number sufficient for the instruction of five *dais*. The health visitor has, of course, other duties. This difficulty has led to the establishment of training schools for *dais*.

Table XXVI also gives figures for eight *dais'* training schools, and one other exists in Ajmer. The *dais* reside in the school premises and the course of training includes not only prenatal work and domiciliary and institutional midwifery but provides experience in the work of a child welfare centre. Apart from the stimulating and competitive contacts with other pupils, the greater facility of supervision and the inclusion of prenatal work and hospital experience, the establishment of training schools is economical in respect of teaching staff and equipment, whilst better teachers and better teaching material can be provided. The main drawbacks are the unwillingness of the average *dai* to leave her home for a year and the opposition of the *dais*, in the town in which the school is situated, to give over their cases for teaching purposes. The latter difficulty might be overcome by prohibiting unregistered practice in the area in which the school works and by recognising the work of the pupil *dais* as an integral part of the local municipal midwifery services.

20. *Course of Training.*—There is no uniformity in the course of training prescribed for *dais* in the various provinces. In the Punjab, training lasts one year and the *dai* is required to conduct ten cases under supervision. In Bombay, two standards exist, a primary and a secondary. The primary standard fixes no limit of time, but the *dai* must conduct eight cases and witness 20. The secondary training is a residential course of six months given to *dais* who show aptitude in the primary class. In the Lady Graham Dais Training School in Sind, the rules laid down for the Victoria Memorial Scholarships certificate are followed, namely, the conduct of 20 cases under supervision and a course of instruction lasting not less than one year. The training may be wholly domiciliary, wholly institutional or a combination of the two.

The ideal to be aimed at is a course of one year, the conduct of a minimum of 20 cases under supervision, experience of domiciliary and institutional methods and attendance at a prenatal clinic. Emphasis should be placed on the practical side of the work, the diagnosis of prenatal abnormality and the principle of "hands off" during the confinement. One aspect of the work frequently neglected is the care of the mother and baby during the lying-in period; this deserves greater attention in future.

21. *Certificates.*—Most of the provinces which arrange courses in conformity with the Victoria Memorial Scholarships rules use the Victoria Memorial Scholarships certificate. The Punjab Central Midwives Board issues a *dai's* certificate. In the N.-W. F. Province, the certificate is issued by the Inspector General of Civil Hospitals and in the Central Provinces by the Public Health Department. In the United Provinces, certificates are issued by the Indian Red Cross Society and in Bombay the Lady Wilson Village Maternity Association previously gave certificates. It seems desirable to secure some uniformity of syllabus and certificate throughout India.

The position of the *dai* is somewhat anomalous. In most provinces the law ignores her, but at the same time voluntary organisations assisted from public funds, or even public departments themselves, are actively engaged in persuading her to undertake a course of training and in using

bribery to accomplish this end. As the *dai* has no status even after training, she naturally sees no advantage in submitting to control. The *dai* has been omitted from most of the Nurses, Midwives and Health Visitors' Registration Acts, and yet in rural areas at least, she cannot be replaced at present, although the fact remains that under certain municipal Acts she can be licensed This position cannot be regarded as satisfactory.

The role of the *dai* in the larger urban areas is entirely different. Here she probably could, and should, be replaced. Many towns have trained *dais* far in excess of their needs and, as training courses are held each year, new recruits regularly join the profession. In these urban areas where adequate numbers of trained *dais* are available, practice by untrained and unregistered women should be prohibited and the funds annually allocated for training courses should be diverted to strengthening the supervisory staff, so that the work of the registered *dais* may be properly controlled

Nursery School Teachers.

22. The teacher holds the key position in every nursery school scheme. She must be "part educator, part nurse and part social worker" and therefore, needs not only special qualities of temperament and character, but special training All that need be said here is that the present lack of training schools for these teachers is a serious handicap to the development of the movement A further point worth noting is that the school staff must be larger than that for infant classes in elementary schools.

Nursery schools are now being established in various parts of the country, and, in South India particularly, the nursery school movement has already gained considerable momentum. The training given to infant school teachers is not suitable for nursery school teachers and, if the new movement is not to be brought into disrepute by the employment of unsuitable staffs, special training classes for nursery school teachers will shortly have to be arranged. It is understood that the Madras Provincial Branch of the Indian Red Cross Society hopes to start such a course in 1938, the services of a nursery school teacher trained in America having been secured as superintendent of the school Two training schools are stated to exist in Bombay Presidency

Nursery Nurses.

23 This term denotes nurses engaged by individual families to look after the children under the general direction of their parents Institutions which train Anglo-Indian girls for this purpose include the Kalimpong Home in the Darjeeling Hills and the St. George's Home, Ketti, in the Nilgiris The latter institution has recently recruited two English women to organise and conduct a regular course. In connection with the Warne Baby Fold, Bareilly, a training course for Indian girls has been arranged.

CHAPTER VII

LEGISLATION.

Registration of births and deaths.

1. The Births, Deaths and Marriages Registration Act of 1886 was the first legislative measure of its kind and, with subsequent amendments, is the only one applicable to the whole of British India. This Act, however, provides only for the *voluntary* registration of births and deaths. Four provinces only have so far provided themselves with their own Births and Deaths Registration Acts, whilst others have framed rules for this purpose under the All-India Act of 1886. In a number of provinces, provision has been made in Municipalities and Local Boards Acts, but, in most cases, these Acts do not make registration of births and deaths compulsory. Whilst, also, power is given in those provincial Acts for the framing of byelaws in respect of registration of births and deaths, this is not obligatory. The result is that, over large areas in most of the provinces, there is even today no compulsory system of registration. This defect has always been a great handicap to all public health departments in their efforts to improve the vaccination of infants and is even more so in respect of the development of maternity and child welfare work. Even in those limited areas where registration is compulsory, the provisions of the Acts are rarely enforced, so that generally speaking vital statistics are deplorably defective. It is hoped that the facts and figures set out in Chapter III will have demonstrated the urgent need for more accurate figures and for more skilled classification and calculation of rates. These have made it obvious that the present machinery for the collection and tabulation of vital statistics requires to be completely overhauled, if not replaced. Dependence on illiterate village officials for the collection of these important statistics permits of an initial error which is only too frequently intensified later by the machinery employed for the classification of events. In Madras Presidency, for some years past, the final classification and consolidation of district and municipal figures is being carried out in the office of the Director of Public Health, and this arrangement has resulted in considerable improvement. The plan is one which may be commended to other Provincial Governments. It may be added, however, that medical officers of health could themselves, even under present circumstances, do much to effect improvement, whilst in the last resort a few judicious prosecutions for contravention of the law, where compulsory registration is in force, would bring to the notice of the people the necessity for compliance. That this is so has been proved in Calcutta where prosecutions for failure to register have resulted in much more accurate records pertaining to the area concerned.

Notification of Births

2. The term "notification of births" does not apparently carry the same significance in India as it does in England and Wales. In England and Wales, under the Births and Deaths Registration Acts, 1874-1926, a birth must be registered by the official registrar within 42 days of its occurrence. The registrar has no direct connection with the public health

department and his figures are transmitted to the Registrar General, not to the medical officer of health. Under the Notification of Births Acts of 1907-15, births must be notified to the medical officer of health within 36 hours The purpose of the latest Notification of Births Act was to put the medical officer of health in possession of information relating to the occurrence of a birth at the earliest possible moment and at a time when measures to prevent departures from health were most likely to be effective The time lag of 42 days between the birth and the registration meant that the child might be dead and buried before the health visitor even heard of the event and notification was instituted to remove this obstacle to effective maternity and child welfare work. Since, in India, 47 per cent of the deaths of children under one year of age occur within the first month of life, the potential value of such legislation is obvious, provided the information can be utilised Several Municipal Acts contain clauses under which the medical officer of health, if such an officer exists, is the official Registrar of Births and Deaths and all births and deaths must be reported to him. In the United Provinces, for example, some municipalities have framed bye-laws under which all births and deaths must be reported to the medical officer of health within three days of their occurrence. Other clauses enable local authorities to frame rules for the notification of births to the medical officer of health These measures, if suitably enforced, would go to improve present conditions and give the health authorities the early information which is so necessary in relation to maternity and child welfare work They must be made more generally applicable, however, before they can be said to be of any great value. Here again, public health departments and medical officers of health might play a much more active part than they have in the past.

Registration and control of Nurses, Midwives and Health Visitors.

3 Considerable legislative activity in connection with the registration of nurses, midwives and health visitors has occurred during recent years, but existing Acts are without exception provincial in nature. These include :—

(i) the Punjab Nurses Registration Act, 1932,

(ii) the United Provinces Nurses, Midwives, Assistant Midwives and Health Visitors Registration Act, 1934,

(iii) the Bihar and Orissa Nurses Registration Act, 1935,

(iv) the Bengal Nurses Act, 1934,

(v) the Central Provinces Nurses Registration Act, 1936,

(vi) the Madras Nurses and Midwives Act, 1926 (as amended by Act VII of 1934) ; and

(vii) the Bombay Nurses, Midwives and Health Visitors Act, 1935.

Comment has already been made on the absence of provision for (a) the registration of *dais* and (b) the prohibition of unregistered practice under many of these Acts. Defects in these respects are to some extent compensated by clauses in Municipal and Local Self-Government Acts

which enable local authorities to promulgate rules for the registration or licensing of *dais* and for the prohibition of unregistered practice, but extension in these directions is urgently necessary Moreover, attention must again be drawn to the desirability of utilising more frequently the powers already possessed The Punjab and Bihar Acts contain prohibitive clauses which can be applied at the discretion of the local authority, but the local Government has also power to apply these to any area where the local authority fails within a reasonable time to take appropriate measures to promote safe midwifery It would make for greater progress if these powers were possessed by other provincial Governments and if the powers already in existence were more commonly applied

If the supervision of private midwives is to be anything more than nominal, their work must be supervised in some way The Bengal Act, for instance gives the provincial Government power to make rules for the regulation supervision and restriction within limits of the practice of nurses, midwives and health visitors and to lay down the powers and duties of Supervisory Boards to be formed in every district These Boards have not yet been formed and meantime this duty has been delegated to the civil surgeon In regard to some of the other provincial Acts, the provincial Governments have the power to frame rules for supervision of these women, but the method of carrying out this supervision has not been included in the Acts

In order that the local supervising authority, who might be the local civil surgeon or the medical officer of health, should be aware of the numbers of midwives in domiciliary practice in their areas, it has been suggested that a system of licensing by the municipality or local board should be introduced.

Qualifications and appointment of maternity and child welfare workers.

4. Although a number of Municipal and Local Self-Government Acts give powers to formulate rules regarding the terms of appointment and qualifications of maternity and child welfare staffs, very little advantage has so far been taken of those powers Earlier sections of the report have already stressed the importance of obtaining the services of adequately trained and experienced medical women, health visitors and midwives It is to be hoped that, in future, less reluctance will be shown in the use of the powers already available in respect of these appointments

Supervision of Private Maternity Homes and Hospitals.

5. So far as these institutions are concerned, no legislation exists in any province in India for their registration and inspection There can be no doubt that these institutions which are in the hands of private individuals or organisations should be controlled in some measure. It is probable that existing Municipal and Local Boards Acts give no power either of inspection or supervision of these institutions, so that legislative amendments to existing Acts are necessary These amendments should provide for the licensing of such institutions by the municipal and local boards concerned and for their supervision and control by means of suitable byelaws.

Powers to incur expenditure on maternity and child welfare activities.

6. In India, certain municipal and local boards Acts give these local bodies power to incur expenditure on maternity and child welfare work, but the provisions are usually permissive This power ought to find a place in the public health legislation of every province In exercising the existing powers, many municipal and local bodies find it difficult to provide sufficient funds from their ordinary revenues for this public health activity This difficulty is best met by the provincial Governments making grants-in-aid on condition that certain standards are maintained. In this way, maternity and child welfare work in the provinces would be susceptible of rapid development and the standard would be maintained because local schemes would automatically be under the supervision and control of the official public health departments, which should have a woman medical officer of the status of an Assistant Director of Public Health Several provincial Governments now provide this stimulus of grants-in-aid, but if these grants are to be expended to the best advantage, supervisory control of the kind suggested is essential.

Factory Act and Maternity Benefit Acts

7. The Factory Act of 1934 regulates the hours of work for women and the employment of expectant and nursing mothers It also encourages the establishment of creches, although their provision has not been made compulsory except in Bombay under the provincial Act.

Maternity Benefit Acts are now in force in several provinces and it is to be hoped that other provinces, where industries have developed, will shortly provide themselves with similar legislative measures For the proper administration of maternity benefit, some method of certification of pregnancy seems desirable, but at the moment welfare schemes under which this could be effectively done are insufficient in numbers

8 The replies to the questionnaire would indicate that the first essential is the proper application of legislation and regulations already in force Legislative measures which cannot be made effective are almost worse than useless

CHAPTER VIII

SUMMARY OF RECOMMENDATIONS.

Administration, Organisation and Supervision

1. If maternity and child welfare work is to be properly organised in a province, the first requirement is to have a woman medical officer of the status of Assistant Director of Public Health possessing either a public health qualification or preferably a diploma in maternity and child welfare work and also considerable experience in this branch of public health work. (Pages 15, 21, 22, 63.)

2 The experimental stage in the management of health schools for the training of health visitors in India having now been passed, Governments should take over the administration of health schools (Page 63.)

3 For the larger and better organised municipal and local bodies schemes a woman doctor's services are essential (Page 63.)

4 The work of a health school requires the whole-time services of a Superintendent and in no case should the Superintendent of a provincial school be expected in addition to undertake tours of inspection of child welfare centres. (Pages 19, 64.)

5 In order to play a useful part, voluntary workers must have knowledge of welfare work and classes for voluntary workers might be conducted in connection with health schools or planned by other organisations engaged in voluntary work. (Pages 58, 59.)

6. In order that the various provincial Nursing Councils should keep in close touch with each other, *e g*, in the interest of uniformity in the standards of training, the constitution of a central body seems desirable (Pages 21, 64.)

7. Government grants-in-aid should be provided in order to stimulate development (Pages 22, 80.)

Statistics.

8 Directors of Public Health should consider the possibility of improving registration of still-births (Page 24.)

9. The attention of Directors of Public Health is recalled to the instructions issued in 1937 in respect of the classification of all deaths of "mothers occurring within one month of childbirth" as "maternal mortality" deaths In addition, Directors of Public Halth are reminded that maternal mortality rates should be calculated on the combined figure for live and still-births. (Pages 23, 25.)

10. The facts show that the principal causes of maternal mortality and morbidity vary markedly in different areas in India and that there is room for further researches into these questions as also into the causes of infantile mortality. (Page 32.)

Maternity Services.

11 Co-ordination between the medical and public health departments is perhaps more vital in the field of maternity and child welfare than in any other sphere of medical and public health work. (Page 39)

12 For adequate prenatal care the first essential is the sound training of medical students and midwives This training should include instruction in the methods of educating the expectant mother. For this purpose all teaching hospitals should have prenatal clinics. (Pages 40, 41.)

13. Two types of prenatal clinic are required ; (*a*) consultative, and (*b*) subsidiary , some form of duplicate records is also required to coordinate the work of the two and to facilitate transference of the patient from one clinic to the other (Pages 41, 42)

14. The practice of accommodating maternity cases in general wards is to be deprecated and a large number of maternity beds in separate maternity wards should be provided. (Page 45)

15 In order to ensure a reasonable standard of equipment, staff and safety for the mothers, maternity homes organised by voluntary or private effort should be supervised and inspected It is suggested that suitable control could be exercised by a system of licensing and by inspection conducted by governmental medical and public health departments (Page 45.)

16 Admissions to maternity homes should be confined to 'booked' cases which are expected to be normal. (Page 45.)

17. Although it is desirable to have one midwife for every three beds, one to five may be regarded as a reasonable provision. (Page 46.)

18 Considerable increase in the numbers of domiciliary midwives is required (Page 48)

19. Additional female medical aid should be made more readily available in all domiciliary midwifery schemes (Pages 48, 49.)

20. For the supervision of domiciliary midwifery the solution seems to be in the appointment of medical women or health visitors with sound obstetrical experience (Page 49.)

21. Attention is drawn to the advantage of attaching midwives to a maternity hospital, a maternity home or a welfare centre. (Page 49.)

22. In all domiciliary midwifery schemes, families who are able to pay should be charged fees for the services of a midwife. (Page 50)

23. The value of postnatal examinations should be stressed in courses of instruction in teaching hospitals and in health schools. (Page 50.)

Infant and Child Welfare Services.

24. As child welfare work in the real sense of the term cannot be properly carried out by midwives and nurses, the employment of a trained health visitor in each child welfare centre is a primary necessity. (Page 55.)

25. Since early departures from health are not always capable of detection even by a trained health visitor, every welfare centre requires to have a visiting doctor. (Page 57.)

26. Great care must be taken lest the welfare work, which is primarily preventive in nature, develops mainly a curative character The centre should not usurp the function of a hospital or dispensary, but, if sound development of welfare work is to take place, facilities for the relief of suffering must be made available This means for India a wide extension of rural dispensaries and rural medical officers (Page 58)

27. In order to improve the health of elder children more attention should be paid to those between the ages of one to five (Page 59.)

28. The employment of female labour being a well-established practice in many industrial concerns in India and since no legal obligation exists except in Bombay Presidency for the compulsory provision of creches for the children of these women workers the time seems ripe for such provision being made compulsory by legislative enactments

While the routine work may be entrusted to an untrained *ayah*, the direction and supervision of the subordinate staff should be in the hands of an experienced and qualified woman. (Page 61)

29. Official responsibility for institutions for orphans and illegitimate children, etc., should be shared by provincial medical and public health departments. (Page 61.)

Training of Staff.

30. If maternity and child welfare services are to be properly organised and integrated into official departments, special training for medical officers in charge is necessary. (Page 62)

31. In order to attract medical women to the field of preventive medicine, and especially to that part dealing with maternity and child welfare work, the conditions of service should be improved. (Page 62.)

32. For the post of Superintendent of a health school, an experienced and qualified health visitor is most suitable (Page 64.)

33. It is desirable that the regulation of examinations and the issue of certificates to nurses, midwives and health visitors should be conducted by the provincial Nursing Councils In the same connection, attention is invited to the English Ministry of Health methods and to the desirability of forming some central body whose duty it will be to maintain uniform standards and to facilitate the reciprocal recognition of certificates by different provinces (Pages 64, 69)

34. Some experience of general nursing is a great asset to the health visitor and the authorities of health schools should consider the question of modifying the curriculum for health visitors' training in such a way as to include experience of general nursing (Page 66.)

35. In order to provide suitable practical training, every health school should have attached to it a welfare centre. (Page 67.)

36. Arrangements should be made for a period of residence and practical training in a rural area as a definite part of the curriculum in every health school (Page 67.)

37. Every health school should organise annual refresher courses and health visitors, whether employed by Government or by voluntary organisations, who attend these courses, should be regarded as on duty and travelling allowance to and from the course should be paid to them. (Page 67.)

38 No hospital with less than 100 midwifery cases per annum should be accepted as suitable for training purposes (Page 69.)

39. In order to obtain a larger number of candidates for training as midwives and health visitors and, since it is difficult to obtain Indian girls prepared to bear the cost involved, a system of awarding stipends should be more generally adopted both by official and voluntary organisations (Page 70)

40 In the training course for midwives, domiciliary experience should be included, especially for those women who are to work in rural areas. (Page 71)

41 As in the case of health schools, training institutions for midwives should conduct annual refresher courses, especially for those midwives who are working in rural areas (Page 71)

42 Owing to the confusion which is caused by the variations in nomenclature used for the different grades of midwife in different provinces, it is suggested that only two terms, *viz*, " midwife " and " assistant midwife " should be employed in future (Page 72.)

43. Under present circumstances many hospitals train both midwives and assistant midwives concurrently This is a system which is to be deprecated (Page 72)

44. Whilst it is agreed that the training and employment of *dais* is essential to meet existing conditions, this should be regarded only as a temporary expedient Various suggestions have been made for the improvement of the courses of training required for these women and for their supervision and employment (Pages 73—76)

45 In the larger towns where adequate numbers of trained midwives are available, the licensing and recognition of *dais* should be discontinued (Page 76)

Legislation.

46. Not only is improved registration of births necessary in those areas which have their own Births and Deaths Registration Acts, but every province should adopt a compulsory system of births and deaths registration In addition, more stringent enforcement of existing regulations should be practised, if necessary, by prosecution in selected cases (Page 77.)

47 The urgent need for more accurate figures and for more skilled classification and calculation of rates has been pointed out. These questions should be given every consideration by provincial public health departments. (Page 77.)

BIRTHS

16.



